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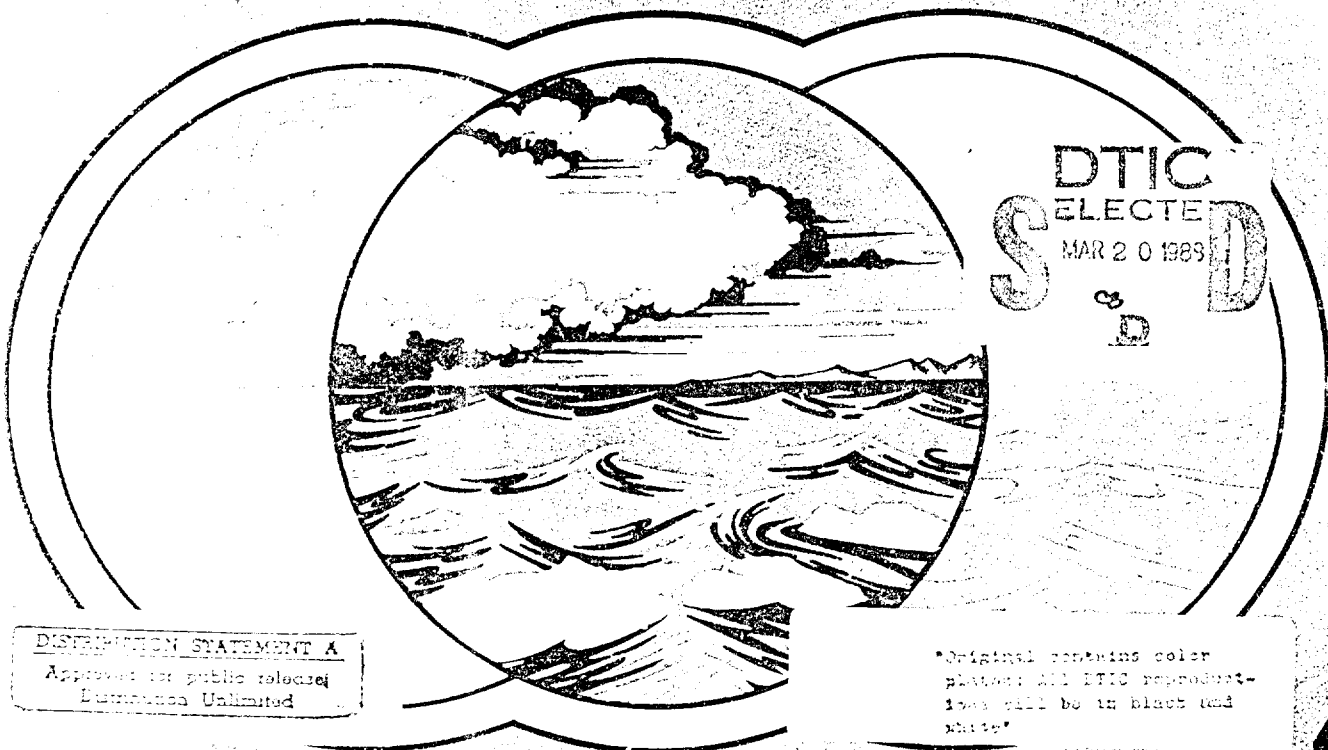
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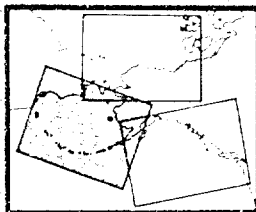
# CLIMATIC ATLAS

2

## OF THE OUTER CONTINENTAL SHELF WATERS AND COASTAL REGIONS OF ALASKA



### VOLUME II BERING SEA



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U.S. DEPARTMENT OF COMMERCE  
NOAA, NATIONAL OCEAN SERVICE  
OFFICE OF OCEANOGRAPHY AND MARINE ASSESSMENTS  
OCEAN ASSESSMENT DIVISION, ALASKA OFFICE

# CLIMATIC ATLAS

## OF THE OUTER CONTINENTAL SHELF WATERS AND COASTAL REGIONS OF ALASKA

### VOLUME II BERING SEA

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NCDC  
WILLIAM A. BROWER, JR.  
RONALD G. BALDWIN  
CLAUDE N. WILLIAMS, JR.

AEIDC  
JAMES L. WISE  
LYNN D. LESLIE

NATIONAL CLIMATIC DATA CENTER • ASHEVILLE, NORTH CAROLINA  
NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
ARCTIC ENVIRONMENTAL INFORMATION AND DATA CENTER, UNIVERSITY OF ALASKA • ANCHORAGE, ALASKA

1988

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## On the Authors

### Arctic Environmental Information and Data Center

**James L. Wise, M.S.**, is the Alaska State Climatologist in charge of the Climate Center at AEIDC. Mr. Wise joined the staff of AEIDC in 1975 after completing over 21 years of service as a weather officer in the U.S. Air Force. His writings and research include AEIDC project manager for work on this atlas and the earlier atlas published in 1977, a wind resource atlas for Alaska, the *Alaska Marine Ice Atlas*, and an oceanographic atlas for Bristol Bay. Applied projects include work on superstructure icing, storm surges, design wind, icing, and snow studies. He has also worked as a team member on numerous multidisciplinary applied research projects with other AEIDC staff and the Geophysical Institute, University of Alaska, Fairbanks.

**Lynn D. Leslie**, an oceanographer with the University of Alaska's Climate Center, works with marine and climatological data. She has developed numerous models and computer programs to analyze arctic climate variables and summarize long-term trends. Her work includes environmental assessment for several Pacific, Gulf of Alaska, and Beaufort Sea coastal regions; the compilation of long-term means and extremes at 470 cooperative climate stations in Alaska; design wind and snow load evaluations for numerous Alaska sites; and statistical and empirical analysis of superstructure icing rates in Alaskan waters. Her background research has focused on air-sea interaction in both tropical and arctic regimes with emphasis on engineering and design criteria in coastal communities.

### National Climatic Data Center

**William A. Brower, Jr.**, a meteorologist with the National Climatic Data Center's Applied Climatology Branch, works primarily in marine climatology. He served as task manager during the production of this three-volume Alaska atlas and the earlier atlas published in 1977. His contributions include environmental assessment reports for selected marine and coastal regions of the U.S. Pacific and Atlantic Oceans, Gulf of Mexico, Caribbean Sea, and Persian Gulf and Gulf of Oman; and a comprehensive climatic atlas of New York Bight. He has also served as data manager in production of major historical files for such programs as NOAA's and FGGE's U.S. Mobile Ship Data Programs, FGGE's II-c Surface-Based Precipitation and Snow Data Program, and DOE's U.S. Historical Climatology Network Program. His research includes a comparison of energy exchanges at the tropical sea-air interface based on data collected by a buoy and a ship.

**Ronald G. Baldwin**, a computer programmer/analyst with the National Climatic Data Center's Applied Climatology Branch, works primarily with computer-generated graphic presentations of meteorological and statistical data. He developed and produced the graphics for Sets 1-23 in section 2 of this atlas. He has made substantial contributions to the U.S. Navy Hindcast Spectral Ocean Wave Model (SOWM) Climatic Atlases for the North Atlantic and North Pacific, climatic summaries for NDBC data buoys, wind and wave summaries for selected U.S. Coast Guard operating areas, U.S. Navy climatic studies series, Defense Mapping Agency Pilot Charts,

Climate Impact Perception and Adjustment Experiment (CLIMPAX), U.S. Department of Commerce Recreational Day Summaries, and numerous other special studies such as climate change in North America as related to increasing concentrations of CO<sub>2</sub>. Among his previous assignments were tours of duty as a National Weather Service specialist at Cordova, Cold Bay, and Annette, Alaska.

**Claude N. Williams, Jr.**, a computer systems analyst with the National Climatic Data Center's Applied Climatology Branch, creates comprehensive data systems for meteorological data. He developed the quality control, data summarization, and preliminary contour mapping for the marine data in this atlas. His major contributions have been in a Tri-Service Upper Air Climatology Program, the DOE's U.S. Historical Climatology Network Program, and several marine atlases for the U.S. Navy. His background includes research and analysis in fields such as propeller design, ocean currents, remote sensing, and radio astronomy.



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The extremes data in the first section were updated through 1984 from a published *Alaska Climate Summaries* done by AEIDC in another project, published Canadian normals 1951-1980, and data supplied by Drs. Howard Critchfield and Kelly Redman, state climatologists for Washington and Oregon. Joseph C. LaBelle, glaciologist and geomorphologist at AEIDC assisted in the preparation of Cook Inlet ice and

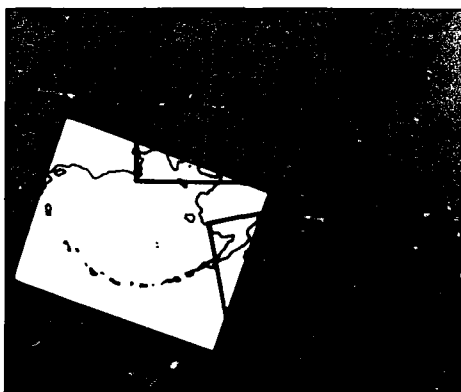
calving glacier ice in Volume I. Thanks also to Denise Cote for editing section I of all volumes and Laura J. Larson who was graphics project leader for the atlas and scheduled work on maps, charts, and text for all 3 volumes.

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## Abstract

This project updates the knowledge of climatological conditions presented in the 1977 publication of this three-volume atlas. Such environmental information for the three Alaskan marine and near-coastal areas is important for resource development of the outer continental shelf—The Gulf of Alaska (Volume I), the Bering Sea (Volume II), and The Chukchi and Beaufort Seas (Volume III) as shown on the map below.

The maps, graphs, and tables in the atlas present a detailed climatic profile of the marine and coastal regions of Alaska. Statistics give the means, extremes, and percent frequency of occurrence of threshold values for these elements: wind, visibility, present weather, sea level pressure, air and sea surface temperature, clouds, waves, and such supplemental information as storm surges, tides, sea ice, cyclone tracks, surface currents, bathymetry, detailed weather, and aviation weather. Data came from



4.5 million surface marine observations and 8.5 million observations for 66 coastal and island stations within the area 40°-84°N and 110°W-160°E, and provide the best possible climatological picture of the outer continental shelf waters and coastal regions of Alaska.

## Introduction

The nature of man's offshore activities depends to a large extent on weather conditions. Knowledge of these conditions can help insure efficient and safe operations. Extreme weather conditions that may be encountered in a given location largely determine the design, construction, and operation of permanent platforms and structures in the ocean as well as on-shore support activities. This atlas is useful to those engaged in shipping, national defense, fishing, and applied research where a knowledge of coastal and offshore climate is essential. Weather information also aids in assessing the onshore impact of offshore activities.

This atlas is the result of a joint effort by the Arctic Environmental Information and Data Center (AEIDC), University of Alaska and the National Climatic Data Center/National Oceanic Atmospheric Administration (NCDC/NOAA) to present descriptive climatology and data analyses of surface marine and atmospheric parameters for those waters and coastal regions of the Alaskan outer continental shelf important to resource development. It is designed to serve as a climatological reference in the assessment of potential impact by oil and gas exploration and development and of leasing and operating regulations and monitoring programs that will permit resource development and insure environmental protection.

The evaluation is in the form of a climatic atlas for each of three marine and coastal areas: The Gulf of Alaska (Volume I), The Bering Sea (Volume II), and The Chukchi and Beaufort Seas (Volume III).

The first section in each volume contains information on such hazards as storm surges, superstructure icing, hypothermia, and wind chill; extremes data on winds, temperature, and precipitation; and planning information on surface currents, bathymetry, sea ice, and tides. The second section presents a detailed climatic profile in the form of isopleth analyses, graphs, and tables.

# **Section I: Selected Topics in Marine and Coastal Climatology**

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*by James L. Wise and Lynn D. Leslie*

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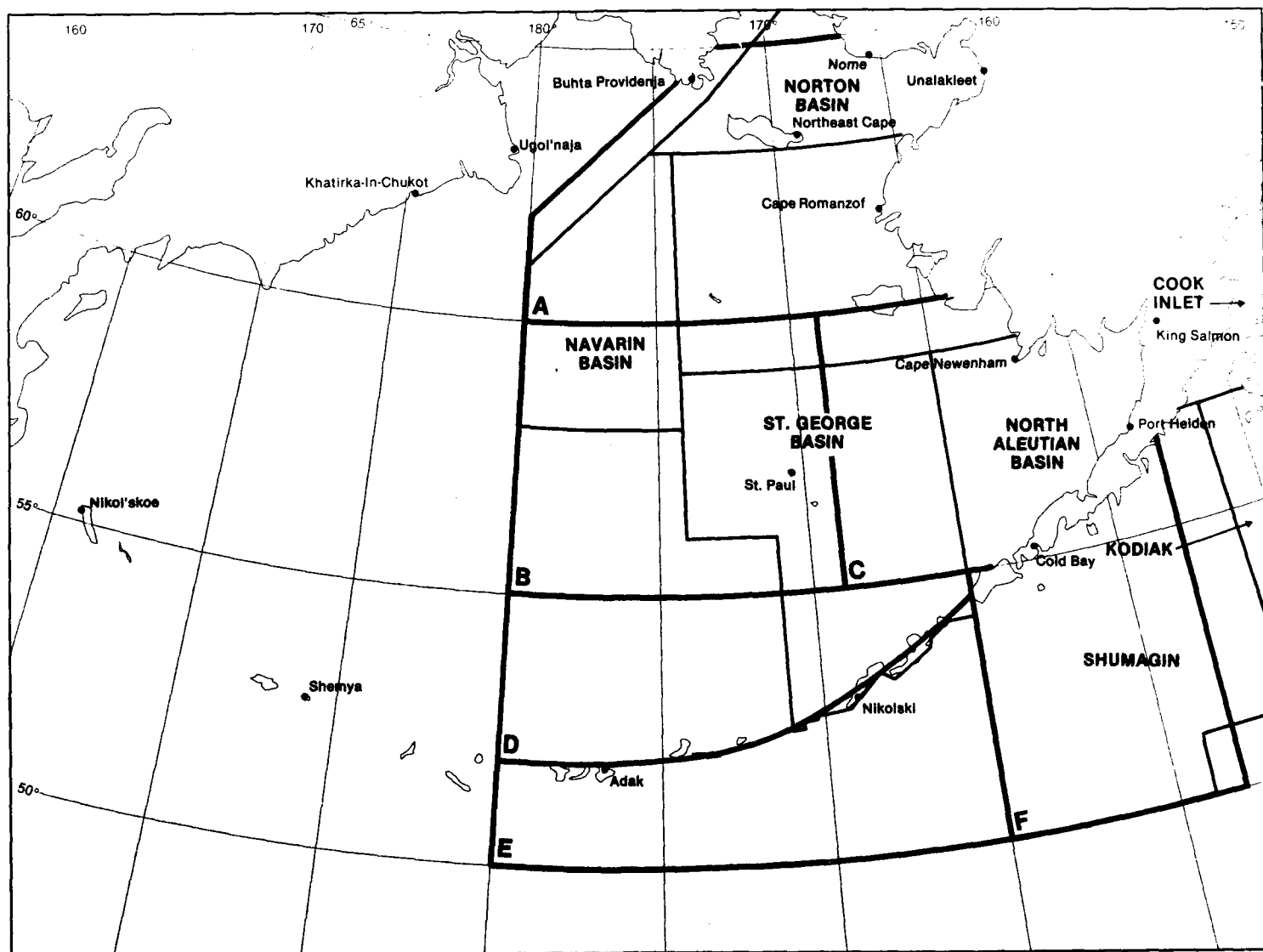


Figure 1. MMS Lease Sale Areas

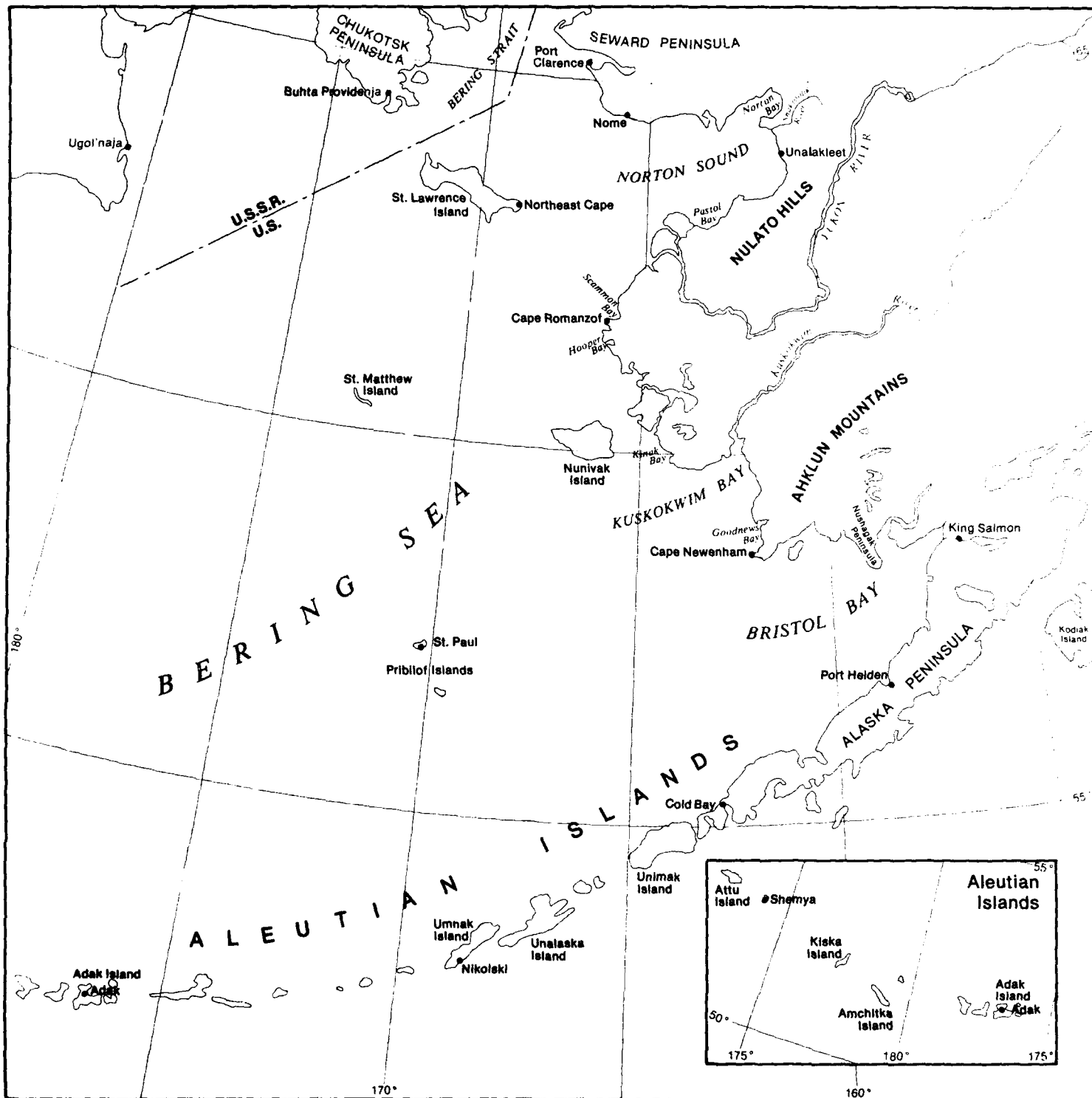


Figure 2. Place Names Map

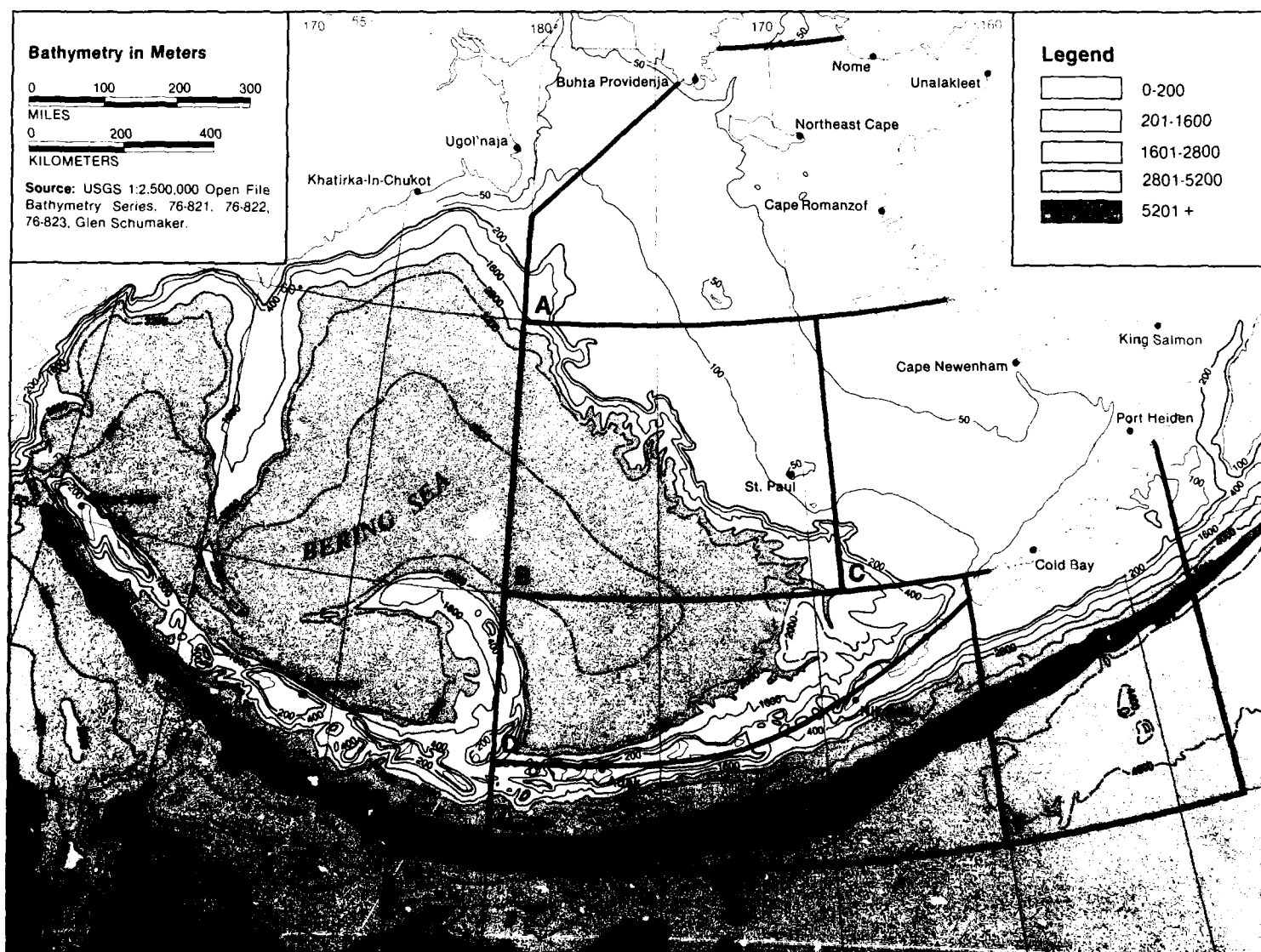


Figure 3. Bathymetry



# Currents of the Bering Sea

## North Aleutian Shelf

The primary flow of water into the Bering Sea originates at Unimak Pass. The source water of this flow is the Alaskan Coastal Current, from south of the Aleutians. Within the pass and north of Unimak Island, much of the coastal current is entrained into the wind-driven flow along the north Aleutian coast. Typically, this current flows to the northeast into Bristol Bay in the direction of the prevailing wind, following bathymetry contours along the coast. At times, the north Aleutian coastal current will undergo a reversal in direction due to changes in the large-scale and mesoscale wind direction. Because winds are highly variable, their contribution to net circulation is difficult to quantify, but the alongshore component of winds is highly correlated with both onshore and alongshore components of surface and subsurface currents.

Sea level changes on either side of Unimak Pass due to storm track and pressure cell movement are probably responsible for the fluctuation of magnitude and direction in the flow through the pass, which at times is southward. These reversals are more likely to occur when the flow from the seasonally variable Alaskan Coastal Current, from the Gulf of Alaska, is at its minimum. The shoaling bottom through Unimak Pass gives rise to vertical turbulence and mixes the water column.

On the north Aleutian shelf, the net northeasterly flow of approximately 1-5 cm/s is present within the coastal zone (Baker 1983; Cline et al. 1982; Thorsteinson 1984). This current is believed to be continuous with a weak current past Nunivak Island (Kinder and Schumacher 1981). Near Port Moller, currents have smaller magnitudes and do not intensify near the coast. Close inshore, within 50 km, currents range from 1 to 6 cm/s (Kinder and Schumacher 1982).

A weak mean flow shows a cyclonic tendency around the perimeter of Bristol Bay, with maximum speeds (roughly 3.5 cm/s) found near and inside the 50-m isobath and in the coastal domain. Mean speeds observed in the central shelf domain were less than 1.0 cm/s, with no sense of an organized circulation (Kinder and Schumacher 1981). There is apparently a net westward convection of water from the central basin of Bristol Bay into the Bering Sea. However, flow in this central region is highly variable, atmospherically forced, and difficult to

quantify. Coastal waters along the northern boundary of Bristol Bay, also called the coastal current, continue to follow the bathymetry. The coastal current flows northwesterly into the Bering Sea and then northerly along the Yukon/Kuskokwim Delta. Thus, the fundamental circulation in outer Bristol Bay consists of a typically unclosed, counterclockwise gyre open to the Bering Sea and driven by a combination of wind, tide, estuarine, and thermohaline effects.

Ninety to ninety-five percent of the velocity variance within the bay is tidal, with tidal currents an order of magnitude larger than the mean flow. For example, on the north Aleutian shelf, where net currents are only 1-5 cm/s and the typical wind-driven currents are approximately 10 cm/s at 5 m, the tidal currents are 40-80 cm/s or more (Thorsteinson 1984). Turbulence resulting from tidal currents causes mixing of the water column from the bottom to about 50-m above the bottom. Tidal currents in Bristol Bay are nearly reversing along the Alaska Peninsula and become more cyclonic and rotary offshore. National Ocean Survey current tables show a change in maximum ebb currents from 20-25 cm/s up to 30-40 cm/s in June near Amak Island. Near Port Moller, the tidal current speeds are as high as 100 cm/s (U.S. Department of Commerce 1980). At a depth of 2m the calculated tidal residual current is approximately 3-4 cm/s, spatially highly variable, and directed to the northwest (Leendertse and Liu 1981).

Kinder and Schumacher (1981) identified three separate hydrographic flow regimes in the southeastern Bering Sea. The *Coastal* regime is present inside the 50-m isobath in the vicinity of Nunivak Island. It is characterized by generally warm, low saline, vertically well-mixed water which has typical currents on the order of 2-5 cm/s toward the northwest. The *Middle* regime is present in the central Bristol Bay region, where water depths are on the order of 50 to 100 m. It is divided from the coastal regime by a front with an enhanced salinity gradient and is characterized by a strongly stratified, two-layered structure extending approximately to the 100-m isobath. Mean flow is generally less than 1 cm/s, with no characteristic vector-mean direction. The *Outer* hydrographic region is divided from the middle region by a front along the 100-m isobath and is present out to the shelf break in the open waters beyond Bristol Bay. A fine vertical structure separates surface layers from the deeper, more well-mixed layers. The vector-mean current in this regime is directed to

the northwest, with magnitudes on the order of 1-10 cm/s and a statistically significant cross-shelf component of about 1-5 cm/s.

## Yukon Delta

The dominant current near the Yukon Delta is the northward flowing Alaskan Coastal Water. The current is thought to bifurcate at the northwest corner of the delta, with one fork flowing inland, toward Norton Sound, and the remaining flow continuing northward (U.S. Navy 1958). Local and seasonal effects can produce variability in the prevailing flow directions. In winter, when winds are from the north, flow offshore of the delta can actually reverse for days or weeks at a time (Aagaard and Coachman 1981). This situation accounted for the flow of the Alaskan Coastal Water about 30% of the time between September 1976 and March 1977 (Zimmerman 1982). The surface currents offshore of the delta tend to flow in the same general direction as the synoptic and mesoscale winds, from the north or northeast in winter and from the southwest during open water season. The typical summer wind frequently produces downwelling and shoreward transport of water, which results in a raised water level and increased wave energy near the coast.

## Norton Sound

The currents in Norton Sound are dominated by regional wind and surface pressure patterns. The highest observed flow was measured at about 50 cm/s; flow decreased with increasing depth (Muench 1981). These atmosphere-driven flow events may differ from the mean flow and produce uncertain, intermittent variability in the circulation pattern. Oceanographic data from the mouth of Norton Sound indicate a net northward water transport, with strong seasonal differences in movement rates. Currents between the mouth of the sound and St. Lawrence Island to the west are characterized by somewhat pulsive north-south flow events having speeds of 50-100 cm/s (Muench, Pearson, and Tripp 1978). These speeds contrast with reported mean flow rates of 15 cm/s observed in relative synchrony with major meteorological events. The mean circulation pattern within the sound is cyclonic in character (Drake et al. 1980). A typical feature is westerly flow of water mass, varying in extent and intensity over time, along the northern coast (Cline, Muench, and Tripp 1981). The tidal component in the sound is on the

order of 50 cm/s and reverses either diurnally or semidiurnally. The reversals are roughly north-east/southwest within Norton Sound.

The upper- and lower-layer circulation is decoupled in the eastern sound, but less so in the western sound, where there is a monotonic decrease in speed along with a slight rotation of flow as depth increases. Northwestern surface flow rotates to westerly near the bottom. In summer, easterly flow enters the sound along its southern shore, curves cyclonically to the north, and is then deflected to the west at the north

coast, roughly following the bathymetry. This flow varies in intensity and extent from year to year. In the summer of 1979, a westerly mean flow paralleled the coastline and was superimposed upon a highly variable flow which included reversals (Muench 1981).

### Bering Strait

The Bering Sea is characterized by an open shelf south of St. Lawrence Island. Mean currents are variable in direction and range from 1 to

4 cm/s, with the tidal current accounting for  $55 (\pm 31)\%$  of the fluctuation (Coachman, Salo, and Schumacher 1983). Near St. Lawrence Island, the Bering Sea narrows into two straits, the Shpanberg and Anadyr. North of the island the two straits merge to form the Bering Strait. Circulation here is dominated by a northward mean flow ranging from 4 to 15 cm/s, with very small tidal influences  $24 (\pm 13)\%$  variability (Coachman, Salo, Schumacher 1983). Flow in both the Anadyr and Shpanberg is to the north, approximately parallel to the local bathymetry. The flow appears to come from around both ends

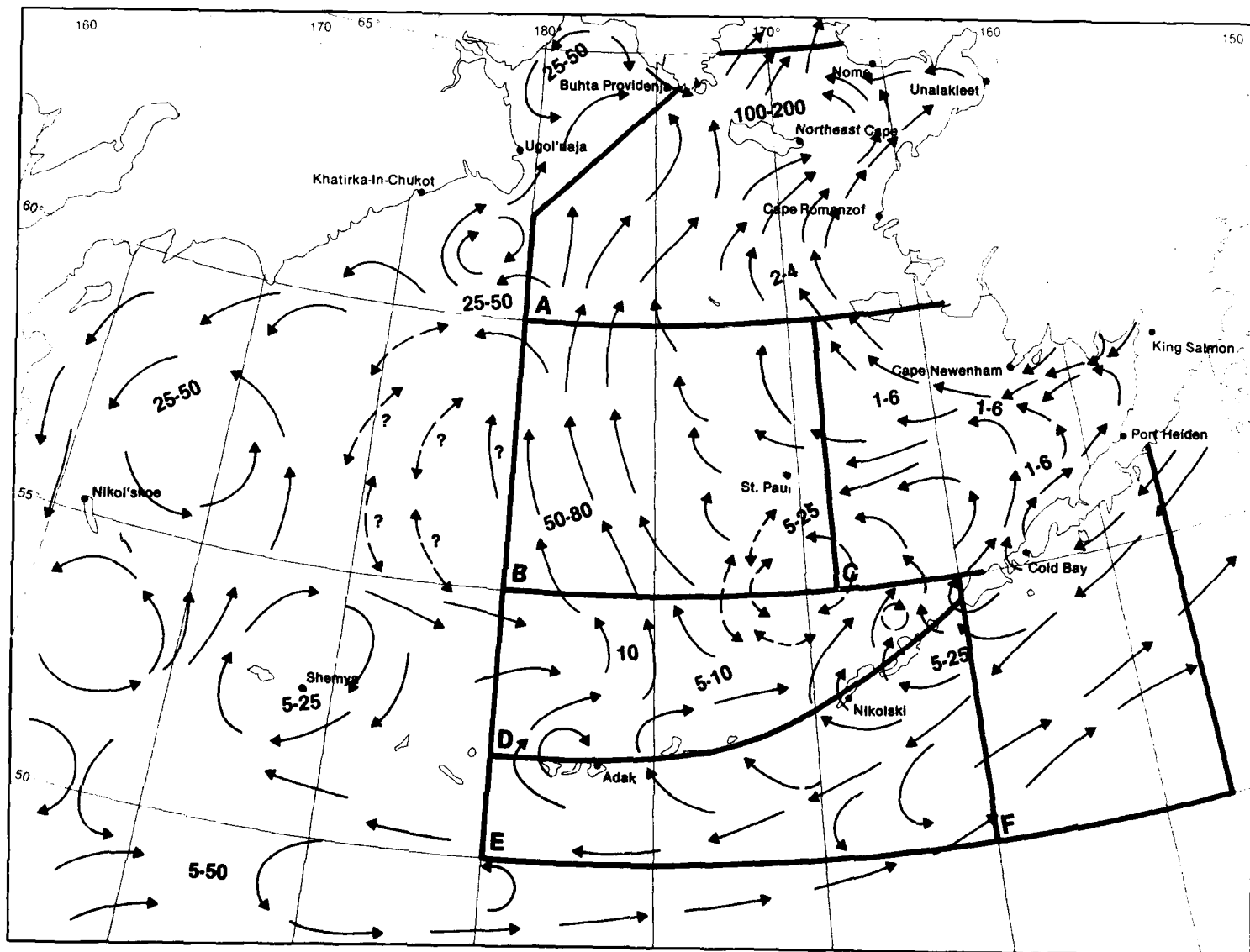


Figure 4. Bering Sea Currents—Summer

**Legend**

Bering Sea surface currents. Numbers indicate mean speed in cm/s. Arrows depict flow as follows:

— Prevailing current direction

--- Variable current direction

Bering Sea surface currents synthesized from Arsen'ev 1967; Goodman et al. 1942; Kinder and Schumacher 1981; LaBelle 1983; Marine Advisory Program, University of Alaska; Notorov 1963; Pelto 1981; Takenouchi and Ohtani 1974; and U.S. Navy 1977

of St. Lawrence Island. Frequent reversals are coincidental with meteorological events. These reversals can affect the flow over vast regions covering thousands of square kilometers. The presence of ice appears to dampen the impact of wind stress forcing. The major driving force for the northward flow through Bering Strait is the sea surface sloping down to the north (Aagaard and Coachman 1966). A slope of  $2 \times 10^{-6}$  is associated with average summer northerly transport of approximately  $1.6 \times 10^6 \text{ m}^3/\text{s}$ . The normal condition is, thus, one in which sea level in the southern Chukchi Sea (in summer) is about

0.5 m lower than in the northern Bering Sea. A major cause of variations in the sea level difference must lie in fluctuations of the regional wind distribution. It is also possible that the atmospheric pressure field may itself directly modify the oceanic pressure field (Aagaard, Coachman, and Tripp 1975).

An examination of recent meteorologic data (Aagaard and Coachman 1981) showed the following results. In every case of southerly flow through the Bering Strait, the large-scale atmospheric pressure patterns were the same. One day

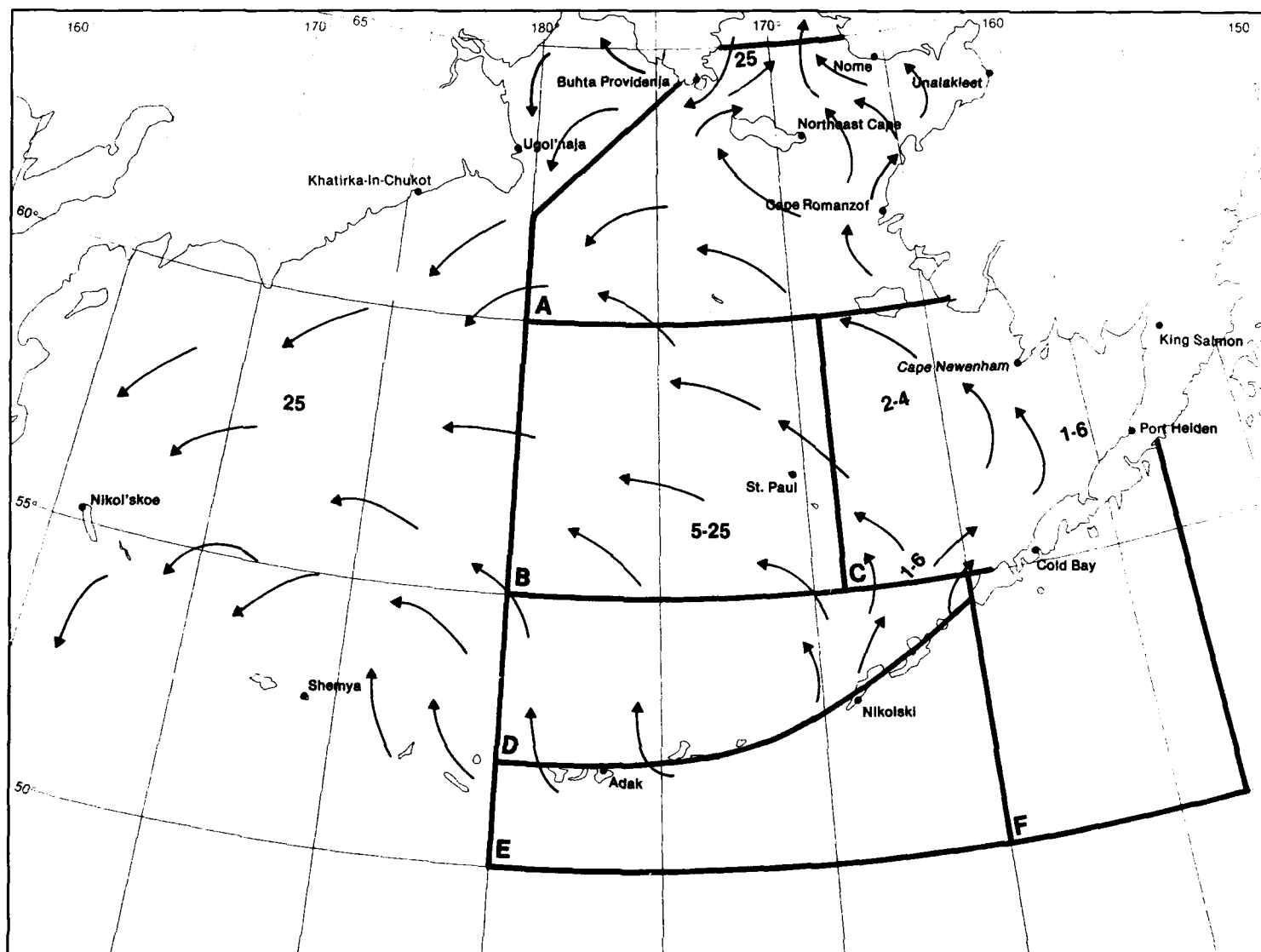


Figure 5. Bering Sea Currents—Winter

before a peak in southerly flow, a strong low-pressure system was centered some distance to the southeast of Bering Strait in the area of Bristol Bay, Kodiak, Anchorage, and the northern Gulf of Alaska. At the same time the Siberian high was centered some distance west or west-northwest of the strait. The isobars signifying the strongest pressure gradient between pressure centers were located precisely over the Bering Strait region. Most significantly, they had a nearly north-south orientation which extended from over the Chukchi Sea south into the central Bering Sea—completely across the northern Bering Sea shelf. If the north-south orientation of the isobars did not extend totally across the northern shelf or if the isobars were oriented northeast-southwest (the nearest typical configuration), strong southerly flow events did not occur.

The mechanism which drives major south flow events now seems clear. Strong north winds must develop over the entire northern Bering Sea, not just over the immediate region of Bering Strait. Large-scale, strong atmospheric pressure cells are required: a low far to the southeast and a high well to the west. The strong northerly winds generated thereby move water southward off the entire northern Bering Sea shelf. Removal of sufficient water off the northern shelf generates a sea-level slope down to the south—sea-level slope has been shown to be the major force driving transport through the strait (Coachman et al. 1975). This, together with the strong north winds caused by the east-west atmospheric pressure gradient, drives enhanced southerly transport. These conditions apparently require about one day to develop, so that maximum south transport occurs the following day. Because the

system behaves to a marked degree as a coherent unit, water levels at both St. Lawrence Island and Cape Lisburne fall together and are nearly in phase with the transport.

Northward transport stands in contrast to the southerly transport events. Periods of northerly flow tend to be more persistent and not so great in magnitude, nor do they show the marked episodic character of the southerly flows. The greater persistence of northerly flow must reflect the basic driving force, a higher sea level in the Bering Sea than in the Arctic Ocean (Coachman et al. 1975), which still remains unexplained. There were, however, a number of relatively rapid northward accelerations of transport during the seven months of record which appear to have two basic causes:

(1) After strong south transport events, rapid accelerations commonly occur which can be thought of as compensatory. When atmospheric conditions causing the southerly transport event dissipate, water is not being removed from the northern Bering shelf, but there is still voluminous southerly transport in the system. Water "piles up" in the region around St. Lawrence Island and Norton Sound, a condition reflected by a strong, positive difference in water level. Following this by about one day, a strong northward acceleration occurs.

(2) Occasionally, major northward accelerations appear to be, at least in part, directly driven by atmospheric conditions. Specifically, these are a strong low pressure centered in the western Bering Sea southwest of Bering Strait, or a deep trough from the central Aleutians

toward the northwest, so that the isobars in the strong pressure gradient are directed northward from the central Bering Sea along the axis of the system. This configuration creates strong, southerly winds which can move water from the central Bering Sea onto the northern Bering Sea shelf, raising the water level in the vicinity of St. Lawrence Island and enhancing the sea-level slope down to the north.

## Central Bering

West and northwest of the North Aleutian Basin and Yukon Delta lies St. George Basin, the Central Bering Sea, and still further west, the Navarin Basin. Circulation in these regions is not as well understood as in the coastal basins. Fewer studies have been conducted in the offshore Bering. Data are site-specific and sporadic over decades. No consistent flow patterns have emerged as representative of the regional circulation. In fact, there is little consensus among investigators that the principal flow is north-south, east-west, or cyclonic or anticyclonic in nature (See Natarov 1963; Arsen'ev 1967; Tak enovti and Ohtani 1974; Goodman 1942; Ratmanov 1937). The northward flowing, eastern boundary current is roughly balanced by a southward flow along the Soviet coast. Within the central region, flow is probably dominated by the location and strength of large-scale atmospheric pressure cells. Response times, directions, and persistence are probably of a similar scale as those controlling flow through the Bering Strait (Aagaard and Coachman 1981). Thus, a dominant regional flow pattern is not readily observed nor easily quantified.

# Sea Ice

## Introduction

The annual cycle of formation and dissipation of sea ice in Alaska waters has widespread effects on a number of phenomena. When the ice forms, the coastal climate changes in character from maritime to continental with much colder temperatures and lower humidities than would be the case if open water were present. The ice also interferes and even stops water transportation with the possible exception of icebreakers and other specially designed ships. It makes the cleanup of oil spills difficult, if not impossible, by hampering the operation of cleanup equipment and by trapping oil under the ice. Sea ice also has important effects on the life cycles of living creatures in and near the sea.

In the Bering Sea, the sea ice generally begins as fast ice formation along the shores of the Seward and Chukotsk peninsulas in October. As the season progresses and waters in the more open portions of the Bering Sea cool off, the pack ice generally begins its seasonal southward formation in November. An estimated 97% of the ice in the Bering Sea is formed within the Bering Sea (Leanov 1960); very little is transported south through the Bering Strait. During periods of increasing ice and prevailing northerly winds, the ice apparently is generated along the south-facing coasts of the Bering Sea and moves southward with the wind at as much as 1 knot before melting at its southern limit (Pease 1971). During periods of southerly winds, ice coverage generally decreases in the Bering. Prevailing winds can persist in one direction for weeks at a time in winter in the Bering Sea, causing a wide variation in ice cover from month to month and from year to year (see Figure 6 and map set 17, Section II of this volume).

## Recurring Leads and Polynyas

Wind and current stresses on the ice can cause tension or divergence and open relatively narrow, long stretches of open water in an otherwise dense ice cover. In the absence of strong currents, the wind induces leads which run perpendicular to the wind direction. Flaw leads generally occur just seaward of the stable fast ice zone when strong offshore winds develop.

In the Bering Sea a wind-induced polynya (Figure 6) immediately south of St. Lawrence Island is a frequent but undependable feature (McNutt 1981; Wohl pers. comm.). Northerly

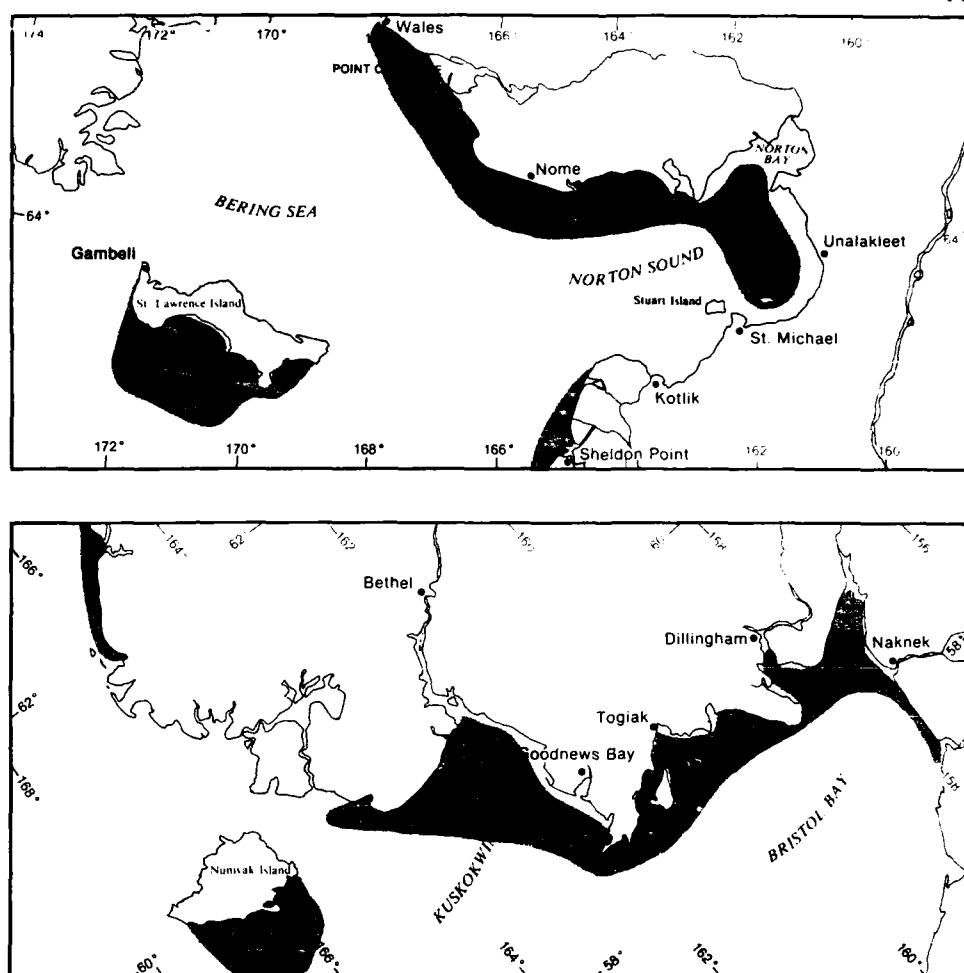


Figure 6. Recurring Polynyas

Synthesized from: McNutt 1981, Stringer, Barrett, and Schreurs 1980, Wohl 1982

winds cause the polynya to form in the lee of the island as sea ice is advected to the south. The polynya can extend more than 160 km and is frequently covered with thin ice. However, the feature is temporal, and a wind shift to southerly flow can close this area rapidly. At such times, a corresponding polynya to the north of St. Lawrence Island is sometimes observed, but it is generally much smaller and occurs less frequently.

A polynya can form on any side of Nunivak Island, depending upon the prevailing wind direction. Usually the feature is located to the north or south, under southerly or northerly winds, respectively. Like the polynya off

St. Lawrence Island, the appearance of this polynya is variable, but it is usually observed at least once each year, often more. Its extent is variable, and thin ice commonly covers the polynya quickly during cold, northerly wind storms.

The polynyas shown for Norton Sound, Bristol Bay, and Kuskokwim Bay were taken from Stringer, Barrett, and Schreurs (1980). These features were mapped from LANDSAT scenes collected between 1973 and 1976. Generally, the major polynyas in these areas open in response to northerly winds, which cause all but landfast ice to move toward the south. As the polynyas are opened by the wind,

new ice forms and is, in turn, advected southward. This mechanism for new ice production can be very efficient under the proper circumstances (Pease 1980). None of the polynyas can be considered even semipermanent since a reversal in the wind direction can completely close them. Furthermore, many of the areas shown are partially covered with very thin ice when the northerly winds bring below-freezing temperatures.

### Fast Ice and Shear Zones

According to World Meteorological Organization sea ice nomenclature, fast ice includes all ice that has become attached to the shore, even multiyear pack ice. A common feature at the seaward boundary of the fast ice is an area of shear ridges. Shear ridges in the Bering Sea tend to be more localized and of lesser extent and magnitude than farther north. Figure 7 shows the various kinds of ice near shore. Bering Sea ice does not have any multiyear ridges. The accompanying fast ice boundary maps, from the Alaska Marine Ice Atlas, were synthesized from Stringer, Barrett, and Schreurs (1980).

Any significance accorded to trends apparent on these maps must be tempered by consideration of the variability exhibited in the ice-edge data. At some locations, the edge of the fast ice varies considerably in position during each period. Although the average edges along the coast show a temporal trend, it has only minor significance. In other locations, the variability of the fast-ice edge of each period is small compared to the changes in the average position from period to period (Stringer 1981). The intraseason and interseason variability of the fast-ice edge are very dependent on the meteorology and associated wind patterns as well as the offshore bathymetry. Although the prevailing winds in winter are generally northeasterly, there are often periods of a week or more with southerly winds. During northeasterly winds, shore leads and polynyas open up, only to be closed again when winds shift to south or southwest. Also, the high tide ranges in Bristol Bay and along the coast south of Norton Sound tend to break up extensive areas of fast ice, except where it is grounded on mud flats or offshore shoals.

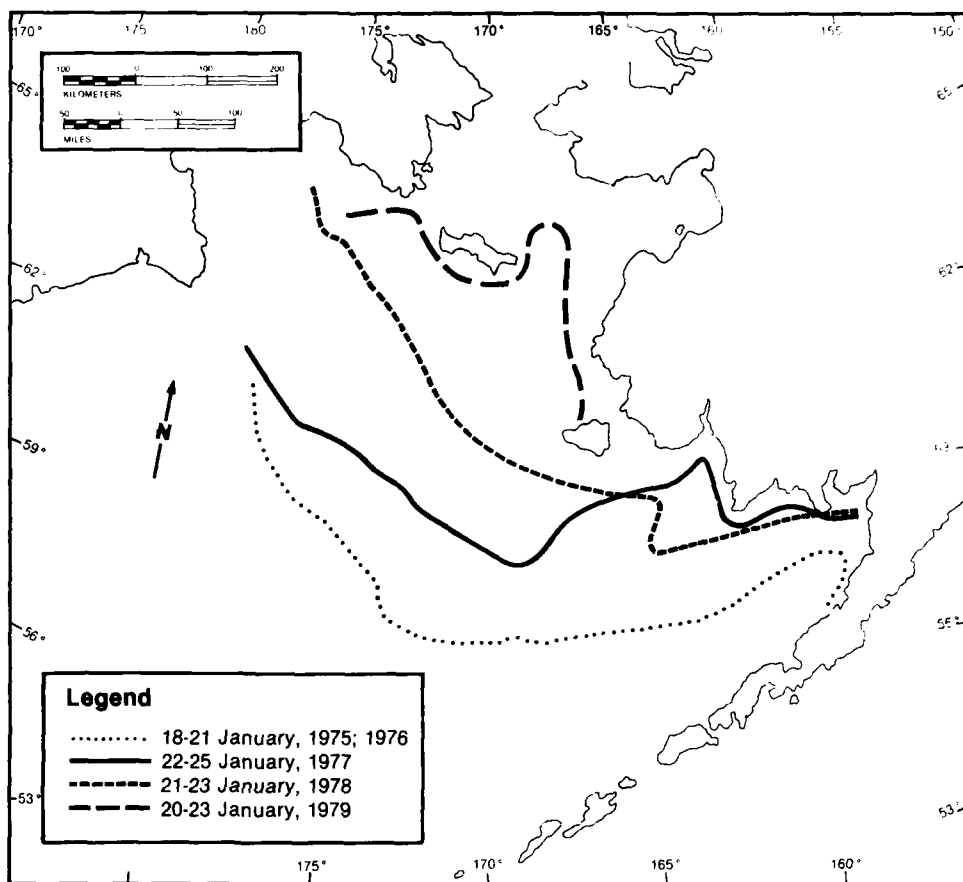


Figure 8. January Southern Ice Limit for 1975-1979.

Source: Niebauer 1981.

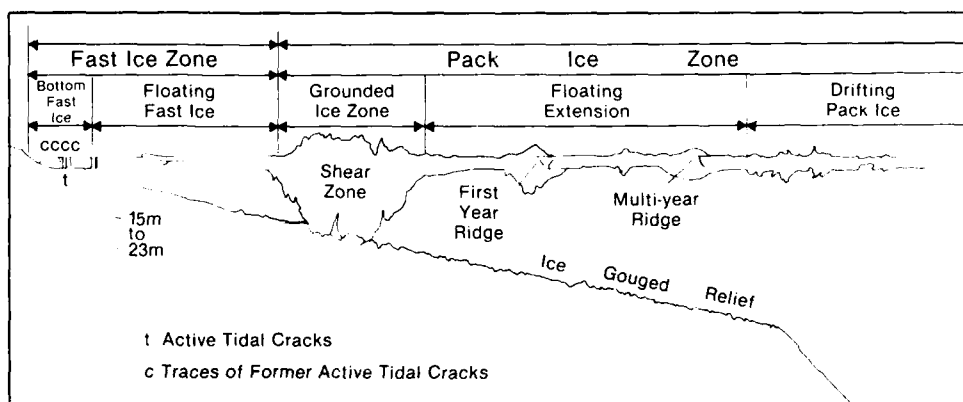


Figure 7. Sea Ice Zones and Types

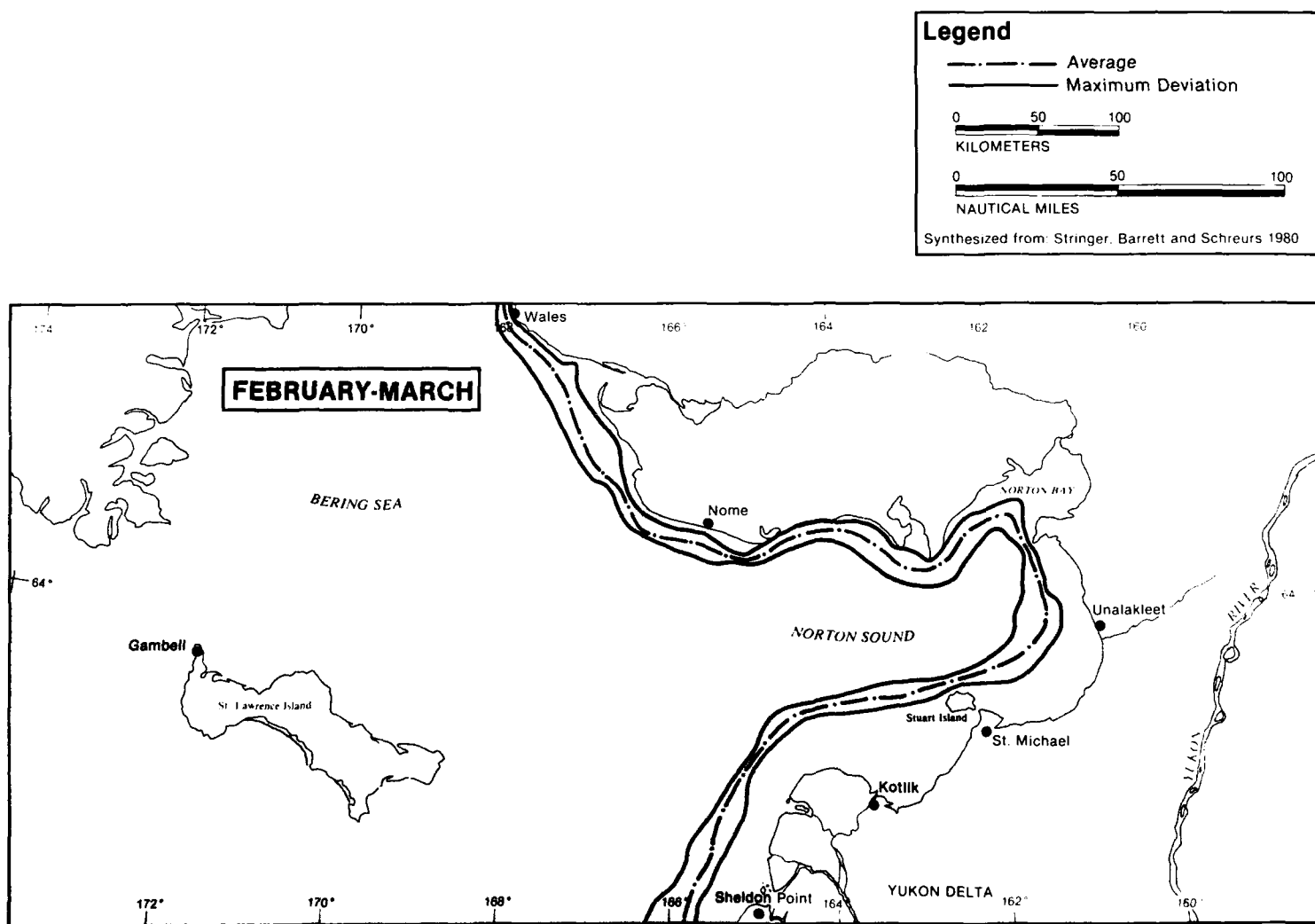


Figure 9. Seasonal Fast Ice Boundary—Norton Sound (February/March)

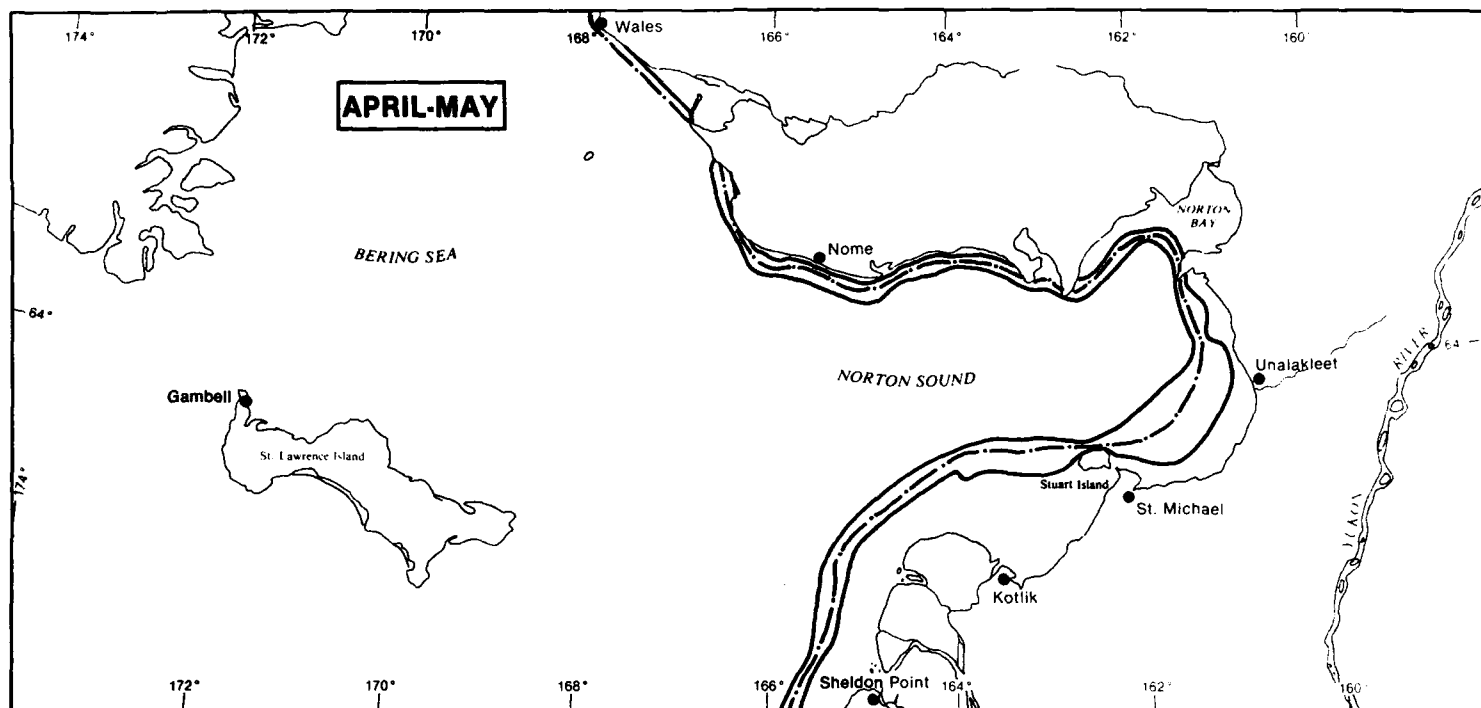


Figure 10. Seasonal Fast Ice Boundary—Norton Sound (April/May)

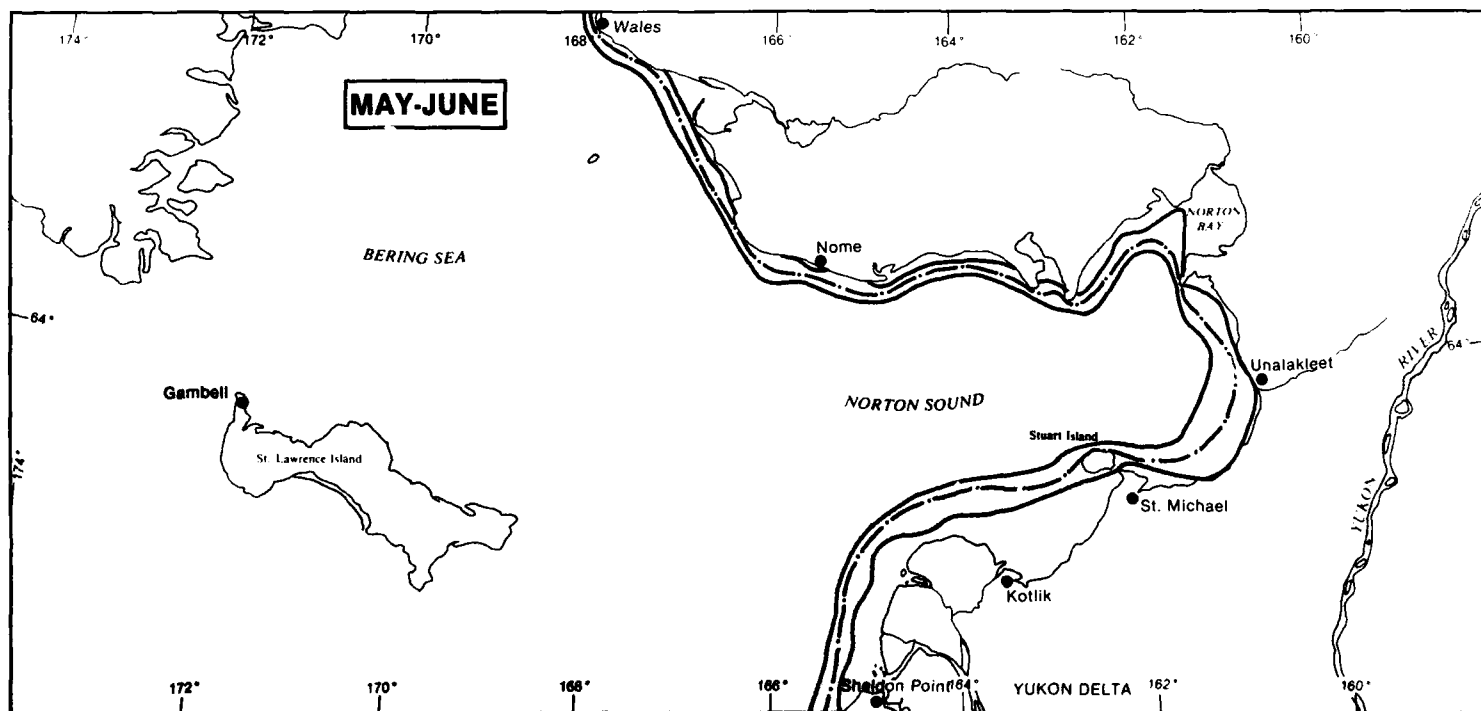


Figure 11. Seasonal Fast Ice Boundary—Norton Sound (May/June)



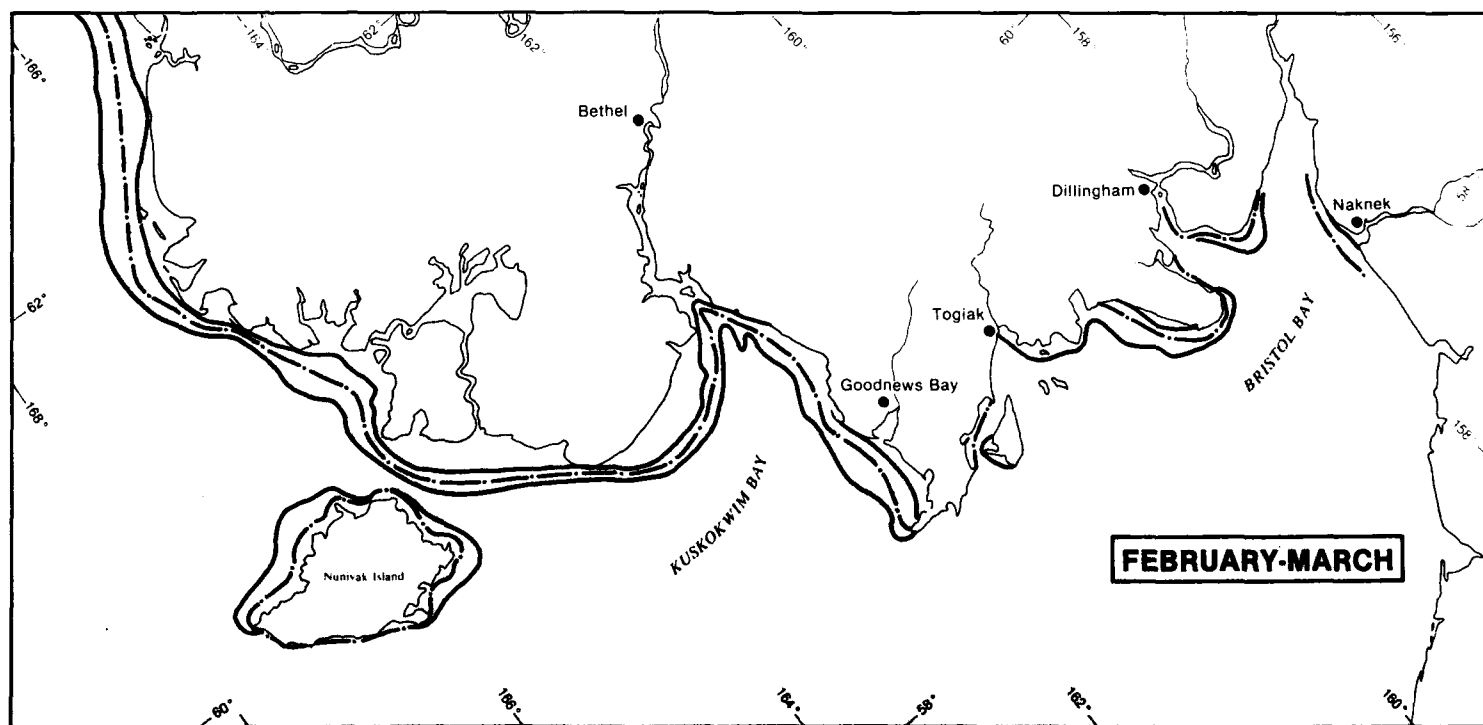
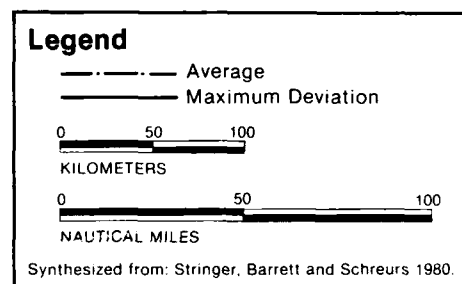


Figure 12. Seasonal Fast Ice Boundary—Southeast Bering (February/March)

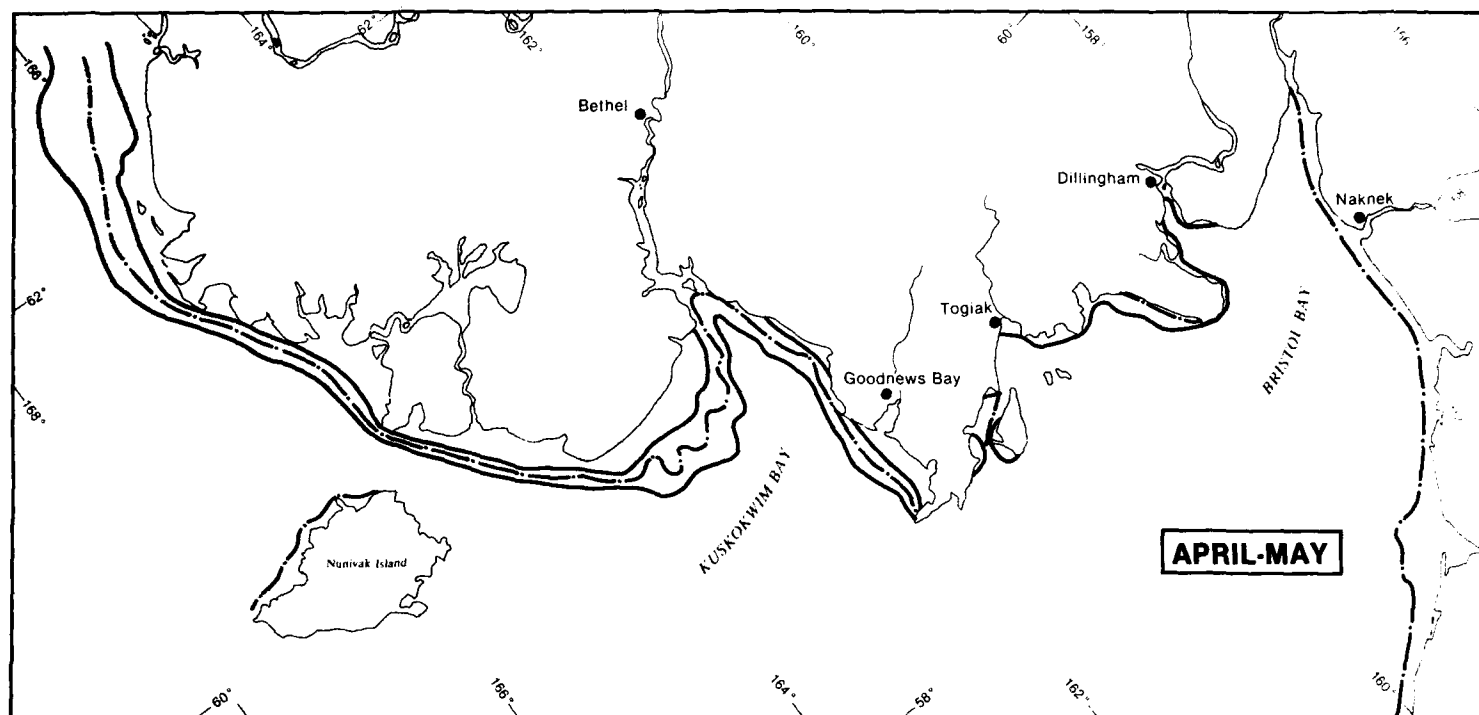


Figure 13. Seasonal Fast Ice Boundary—Southeast Bering (April/May)

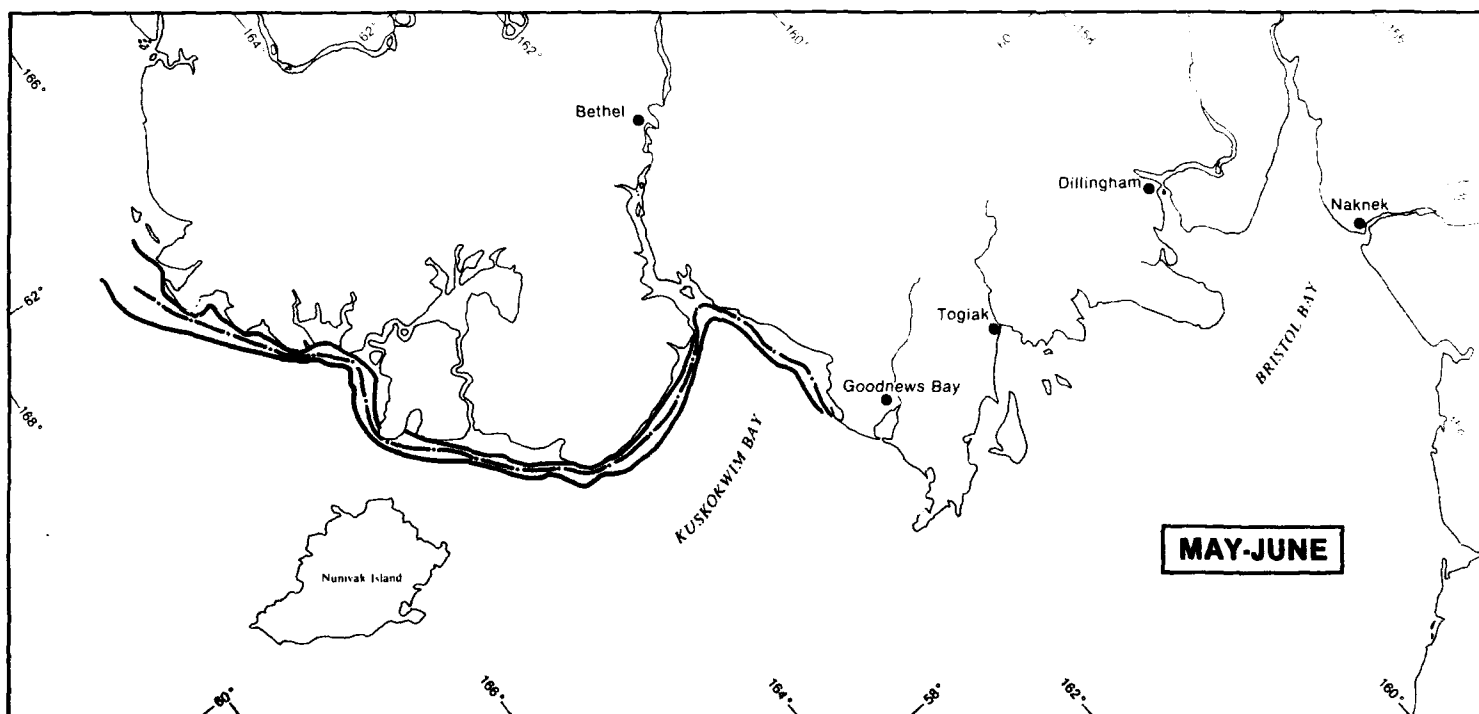


Figure 14. Seasonal Fast Ice Boundary—Southeast Bering (May/June)

# Tides

The practical study of tides, aimed at predicting surface elevations and times, involves the empirical treatment of observations made at the desired location over an extended period of time. The motion of the heavenly bodies, particularly the sun and the moon, relative to the earth is known with great precision, so the tide generating potential at any place and time can be computed. Mathematically the potential can be resolved into a finite number of strictly periodic components which, upon addition, produce the total potential of hundreds of tide-generating components that are listed by various authors. Many of the components are of insignificant amplitude and can be excluded from consideration. In practice only seven components are widely used: four semidiurnal ( $M_2$ ,  $S_2$ ,  $N_2$ ,  $K_2$ ) and three diurnal components ( $K_1$ ,  $O_1$ ,  $P_1$ ) (McLellan 1965). The names and relative weights of these components are shown in Figure 15.

Theoretical models of tides must be verified on the strength of observations at tidal stations where the tide wave has been distorted through passage over a continental shelf of complex topography. The nature of tides in a particular area is highly dependent on the bathymetry, shape, and direction of the coastline and latitude. In the Bering Sea in the last 10 years there have been a large number of pressure gauge and current meter observations taken so that

tides can be modeled with a high degree of accuracy. The following discussion paraphrases material contained in Pearson, Mofjeld and Tripp, 1981 in which theoretical tide model results are compared to observations. The tides most concerned with are the principal tidal constituents  $N_2$  and  $M_2$  in the semi-diurnal band and  $O$  and  $K$  in the diurnal band. Ordinarily the  $S_2$  would be included in the discussion, however,  $S_2$  is anonymously small throughout the Bering Sea, possibly because it has small amplitudes in the adjacent North Pacific Ocean. The complicated distributions of semi-diurnal and diurnal tides in the Bering Sea produce a rich variety of tidal types, ranging from fully semi-diurnal in some regions to fully diurnal in others.

The tide wave enters the Bering Sea as a progressive wave from the North Pacific Ocean, mainly through the central and western passages of the Aleutian-Komandorski Islands. The Arctic Ocean is a minor secondary source of tides which propagate southward into the north Bering Sea where they complicate the tidal distributions.

Tides in the Bering Sea are considered to be the result of cooscillation with large oceans. Once inside the Bering Sea, each tidal constituent propagates as a free wave subject to Coriolis effect and bottom friction.

SYMBOL	NAME OF PARTIAL TIDE	COEFFICIENT RATIO
$M_2$	Principal Lunar	100.0
$S_2$	Principal Solar	46.6
$N_2$	Larger Lunar Elliptic	19.2
$K_2$	Luni-Solar Semi-Diurnal	12.7
$K_1$	Luni-Solar Diurnal	58.4
$O_1$	Principal Lunar Diurnal	41.5
$P_1$	Principal Solar Diurnal	19.4

Contracted from table 15.1,  
Elements of Oceanography (McLellan 1965).

Figure 15. Major Tide Components

The tide wave propagates rapidly across the deep western basin. Part of it then propagates onto the southeast Bering shelf where large amplitudes are found along the Alaska Peninsula and in Kvichak and Kuskokwim Bays (Figure 17). Another part propagates north-eastward past St. Lawrence Island and into Norton Sound. Over most of the Eastern Bering Shelf region the tide is mainly semi-diurnal, but in Norton Sound diurnal tides predominate. Over the remainder of the Bering tides tend to be mixed. In the Aleutians diurnal rather than semi-diurnal components are stronger.

**Legend**

**Diurnal range** is the average difference in height between mean higher high water and mean lower low water in feet on a single day.

**Max diurnal and Min diurnal** are the maximum and minimum differences in feet respectively between the higher high water and lower low water that are predicted to occur during the year.

**Max tide** is the highest tide predicted to occur at the location in feet above the datum level generally taken to be the mean of the lower of the two low waters of each day.

**Min tide** is the lowest tide predicted to occur at the location in feet above the datum level generally taken to be the mean of the lower of the two waters each day. A negative number indicates a level below the datum level.

Prepared by AEIDC from *West Coast of North and South America Tide Tables, High and Low Water Predictions, 1986, West Coast of North and South America*, NOS/NOAA, 1985.

Diurnal Range	
Max diurnal	Min diurnal
Max tide	Min tide

3.5
7.1   0.2
5.5   -2.2

1 Oglivea Island

3.1
6.3   0.2
4.9   -2.0

2 Hot Springs Bay

3.7
7.5   0.2
5.8   -2.3

3 Sweeper Cove

3.2
6.5   0.2
5.0   -2.0

5 Martin Harbor

3.2
4.2   0.2
5.0   -2.0

4 Shoal Point

3.7
6.4   0.3
4.9   -2.0

6 Inanudak Bay

3.8
6.3   0.1
5.1   -1.8

7 Chernofski Harbor

4.0
6.2   0.2
5.3   -1.7

8 Kashaga Bay

3.7
6.4   0.1
5.0   -1.9

9 Dutch Harbor

5.0
7.4   1.1
6.3   -1.6

10 Cape Sarichef

10.8
17.8   5.9
13.4   -1.8

11 Port Moller

17.3
10.4   2.5
9.3   -2.5

12 Sand Point

12.3
19.9   6.6
14.9   -5.2

13 Port Heiden

18.2
26.1   11.0
22.1   -4.6

14 Egegik R. Entrance

22.6
31.6   11.0
26.9   -4.7

15 Naknek R. Entrance

3.2
3.4   2.0
3.1   -0.4

16 Naknek Air Base

16.5
21.3   10.9
19.9   -1.8

17 Kvichak

19.5
28.4   12.0
24.0   -5.0

18 Nushagak Bay

8.5
11.9   2.6
11.3   -0.6

19 Goodnews Bay

12.2
17.3   4.4
16.8   -0.5

20 Kuskowak Creek

4.0
1.2   0.3
1.0   -0.0

21 Bethel

3.2
5.5   0.0
4.3   -1.6

22 Village Cove

2.1
3.7   0.1
2.9   -1.1

23 St. Matthew Island

1.7
6.6   0.1
2.9   -4.0

24 Northeast Cape

1.7
2.8   0.6
2.1   -0.6

25 Meghoweyik River

6.8
11.2   2.3
8.6   -2.3

26 Cape Romanzof

2.3
2.5   1.0
2.1   -0.3

27 Kwikluak Pass

4.0
6.8   0.9
5.8   -1.0

28 Apoon Mouth

3.9
6.7   0.9
5.7   -1.0

29 St. Michael

1.8
3.1   0.4
2.6   -0.5

30 Carolyn Island

1.6
1.6   0.4
2.1   -0.6

31 Nome

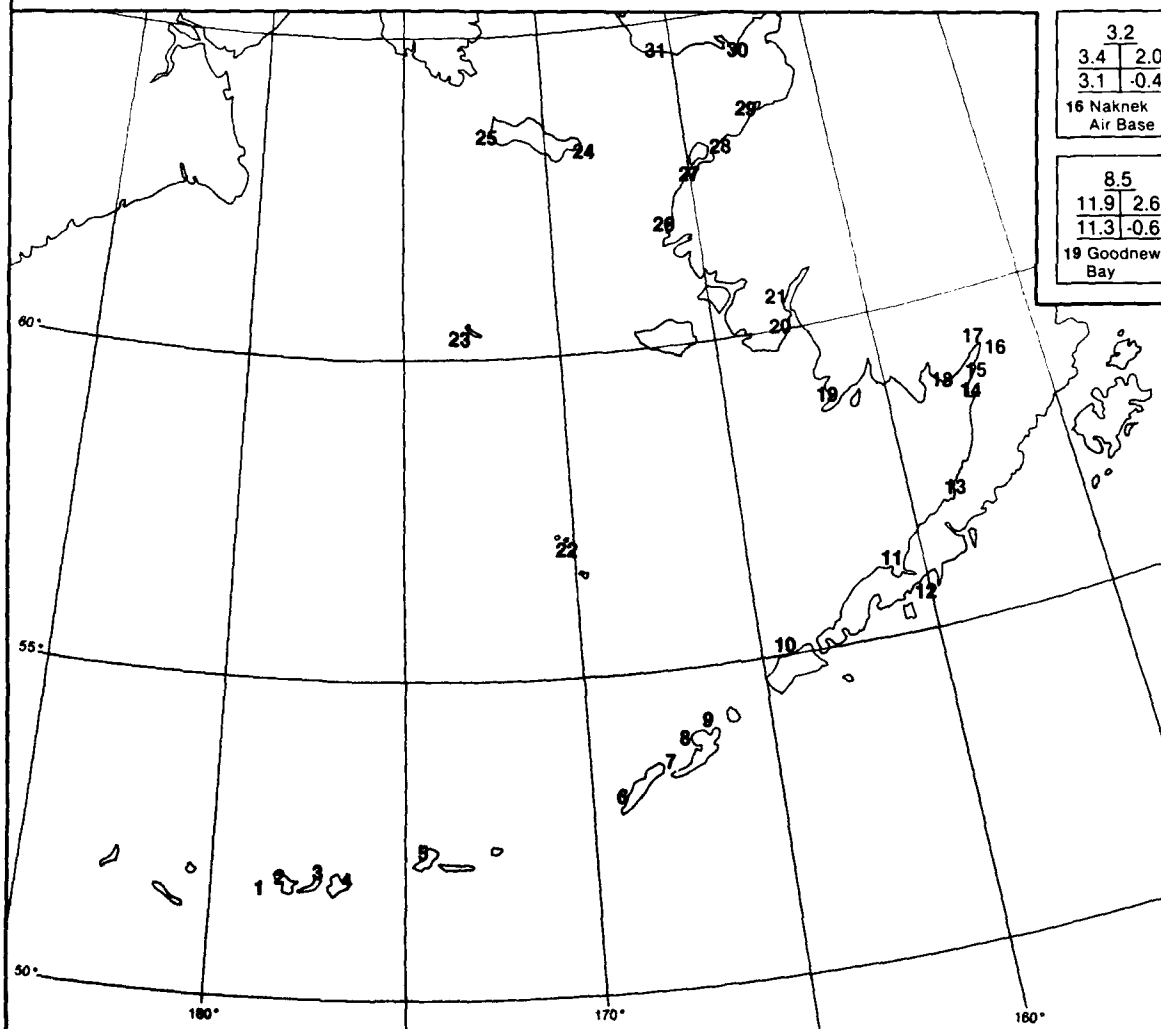
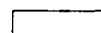
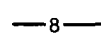


Figure 16. Tide Data

**Legend****Type of Tide**
 Semi-diurnal

 Diurnal

 Mixed

 —8— Corange (Feet)

Adapted from Bering, Chukchi, and Beaufort Seas Coastal and Ocean Zones Strategic Assessment Data Atlas, Prepublication Edition, and U.S. Navy, 1972.

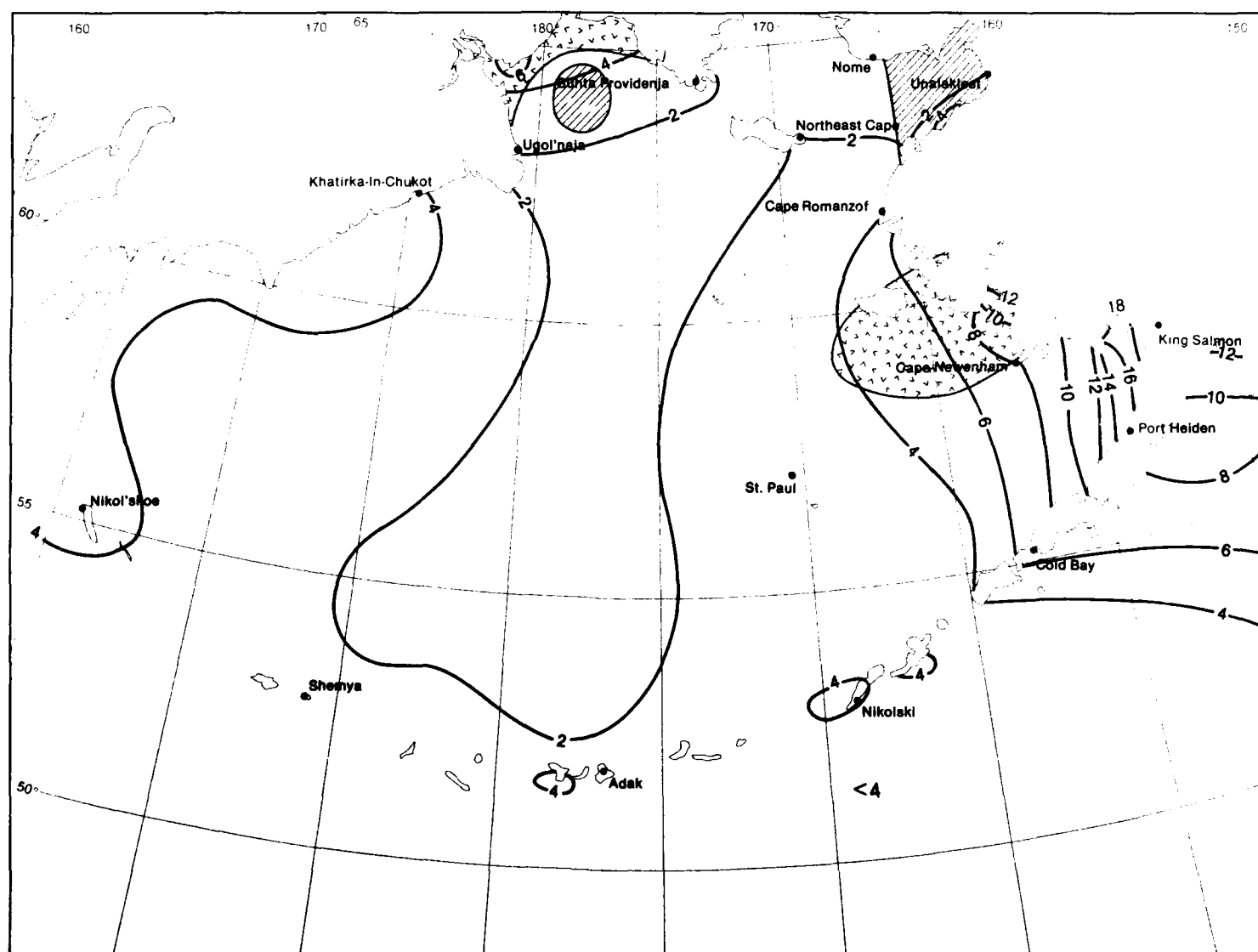


Figure 17. Tide Co-Range

## Storm Surges

Storm surges are waves oscillating in the period range of a few minutes to a few days, in a coastal or inland water body, resulting from forcing from atmospheric weather systems (Murty 1984). By this definition, wind-generated waves (often referred to as wind waves) and swell, which have periods of several seconds, are excluded. The spectrum of storm surge waves is centered around  $10^{-4}$  cycles per second (CPS), which gives a period of about three hours. How-

ever, depending mainly on the topography of the water body and secondarily on other parameters, such as the direction of movement of the storm, strength of the storm, stratification of the water body, presence or absence of ice cover, and nature of tidal motion in the water body, the periods of the water level oscillations may vary considerably. Even in the same water body, storm surge records at different locations can exhibit different periods.

Although storm surges belong to the class known as long waves, as do astronomical tides and tsunamis, there are at least two important differences. First, whereas tides and tsunamis occur on an oceanic scale, storm surges are simply a coastal phenomenon. Second, significant tides and tsunamis cannot occur in an enclosed, small, coastal or inland water body, but storm surges can occur even in lakes, or in canals and rivers. The range or height of a storm

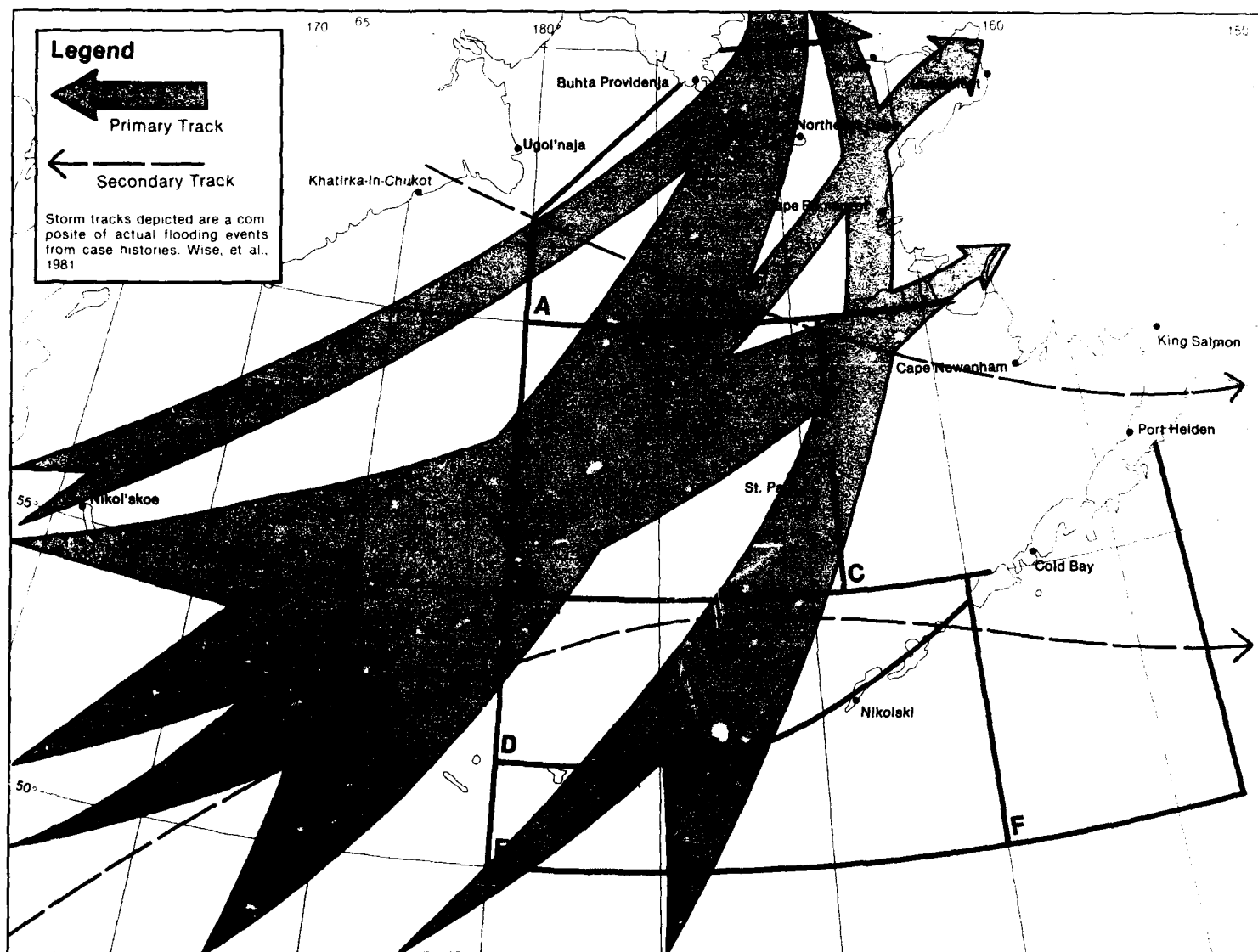


Figure 18. Storm Tracks with Storm Surge Floods

surge depends not only on characteristics of the storm but also on the topography onshore and bathymetry offshore. Shallow water bodies generally experience surges with greater ranges. Also, the height of a storm surge is less if the sea floor is steep than if there is a shallow slope to the sea floor (Murty 1984). Storm characteristics that effect the height of a surge include atmospheric pressure; wind speed, direction, and length of fetch; the latitude; and the direction and speed of storm movement. Air and water temperature differences also affect the height of surges.

Following is a discussion of the storm surge potentials from a study done in 1981 (Wise, Comiskey, and Becker), supplemented by storm statistics since then (NOAA Storm Data, 1981-1986) and a modeling study for surges in Norton Sound (Wise, Comiskey, and Becker 1981; Kowalik and Johnson 1985).

Along the southwest and south coasts of the Seward Peninsula the terrain is generally of moderate relief, with the exception of Port Clarence and the east end of Norton Sound. The waters offshore are shallow with a gently sloping sea floor. The open waters of the Bering Sea provide a long fetch for the development of storm waves. Sea ice restricts the development of storm waves from about the first of December to the first of June on the average; however, there can be a high degree of annual variability. Of 13 known flooding events in Nome, all except two occurred in the fall. One destructive storm for which little factual information is available occurred in April 1906, and another occurred in July 1969. Surges above 4 m (12 ft) have occurred along this section of coast. The most recent was in November 1974; a 3 m (10-ft) surge brought water into the town over the sea wall. This particular storm caused widespread flooding all along the Bering Sea coast.

With the exception of the Shaktoolik River mouth, which is of low relief and marshy, the coast at the east end of Norton Sound is generally rugged due to the proximity of the Nulato Hills. The south coast of Norton Sound is generally of low relief. The sound itself is shallow, with a gently sloping sea floor that is very favorable for the development of storm surges. The range of wind directions for the development of storm surges is limited to west-

southwest to west. However, the east end of Norton Sound often experiences minor flooding, despite unfavorable winds, due to rising sea levels all over the sound.

A storm surge modeling study (Kowalik and Johnson 1985), determined that for the November 1974 storm the highest surge in Norton Sound was in Norton Bay, with a modeled surge of more than 3 m (10 ft). The same study also determined that negative surges of more than a meter can occur in the eastern end of Norton Sound in the presence of strong, persistent northeast winds in winter with an ice cover present. The winds tend to move the pack ice away from the shorefast ice and reduce ice cover from 0.7 or 0.9 coverage to less than 0.55 coverage over much of Norton Sound.

Eleven of the twelve storm surge cases at Unalakleet occurred in the fall; the other was in July. Sea ice and shorefast ice limit the fetch for the development of positive storm surges from about the first of December to the first of June.

The shores of Pastol Bay and the north coast of the Yukon River delta do not have long fetches favorable for the generation of waves and storm surges. However, this area experiences surges due to increases in the height of the water in Norton Sound. The remaining coast of the Yukon Delta is exposed to the open waters of the Bering Sea, where conditions are very favorable for the development of storm surges due to low relief onshore, shallow water offshore, and thousands of miles of open sea. Most surges causing property damage occur in the fall or in August. However, early summer surges can be very hard on nesting birds in the salt flats. In June 1963 80% to 90% of the black brandt production was lost due to flooding of the nesting area after eggs were laid.

The coastal area is generally of low relief from the Kuskokwim Delta to Goodnews Bay, with numerous lakes, sloughs, and marshes. From Goodnews Bay to the Nushagak Peninsula the coastline is more rugged due to the proximity of the Ahklun Mountains. The remainder of the coastline of Bristol Bay is similar to the stretch from the Kuskokwim River to Goodnews Bay. Offshore the shape of the sea floor is conducive to the formation and enhancement of storm surges. From Goodnews Bay northward an ade-

quate fetch can be generated with storm winds from south through west to northwest. East of Goodnews Bay, west-southwest to west are the only directions from which an adequate fetch can develop.

Autumn and late summer are the seasons for destructive storm surge flooding in this area. There are ten known cases of storm surge flooding of populated areas; seven were in autumn and three were in August. Two storms, in November 1979 and in August 1980, account for most of the factual reports of storm surge flooding. The November 1979 storm caused storm surge flooding from Cape Newenham to Scammon Bay. Surges were estimated at 2.5 m (8 ft) in exposed locations in the Kuskokwim Delta. The storm was on a track from west-southwest to east-northeast, and a long fetch of more than 640 km (400 mi) developed with the storm. The August 1980 storm, one of the few summer flooding events, caused flooding on the shore of Bristol Bay. The storm was on a track from south-southwest toward north-northeast from near Atka Island, in the Aleutians, to Kuskokwim Bay. Exposed locations showed surge flooding up to 4 m (12 ft).

The coastal area from Hooper Bay to Kinak Bay is a favored nesting area of migratory birds in the spring and summer. Minor storm surges that cover nests in this area at the wrong time can be detrimental to the annual production of several species of birds. Five cases of minor summer flooding of the salt flats were documented in an annual report for the Clarence Rhode National Wildlife Refuge (USFWS 1964). One event (June 22, 1963) caused a loss of black brandt offspring estimated at 80% to 90% of the year's production.

Most of the north shore of the Alaska Peninsula east of Cold Bay is favorable for the occurrence of storm surge flooding, with low, marshy terrain onshore and a moderately sloping sea floor offshore. West of Cold Bay the Aleutian Islands and the south shore of the Alaska Peninsula conditions are not favorable due to rugged terrain onshore and steep ocean floor offshore. The only storm surges discovered in this area were at Meshik, or Port Heiden, and St. Paul. Damage to structures in this area is more likely to be from strong winds and beach erosion caused by wave action than from flooding.

# Superstructure Icing

Structural icing on ships, offshore structures, and port facilities is a wintertime hazard in open waters and coastal sections of Alaska. The icing causes slippery decks, renders moving parts inoperable, and, in extreme cases, causes uneven loading and raises the center of gravity on small ships. Accumulation of ice on rigging and on deck equipment such as crab pots also increases wind effects because a larger surface area is presented to the wind. Ice forming on structural surfaces above or close to a body of water arises principally from sea spray (Nauman and Tyage 1985; Liljestrom 1985), with lesser amounts from atmospheric precipitation (freezing rain and wet snow) and fog (arctic sea smoke, white frost, black frost). Sea spray, the most dangerous source of icing, is produced by the breaking of waves against obstacles such as ships' hulls, other floating objects, shore structures, and, possibly, other sources (Minsk 1977).

Statistical analysis (Boriskenov and Panov 1972) of more than 3,000 cases of ship icing indicates that in 86% of the cases icing was caused by ocean spray alone. Spray combined with fog, rain, or drizzle (liquid sources) accounted for only 6.4% of the cases, and spray combined with (solid source) snow only 1.1%. The cases of icing attributable only to fog, rain, or drizzle account for 2.7% (Minsk 1977). In the remainder of icing cases data were not sufficient to determine the cause.

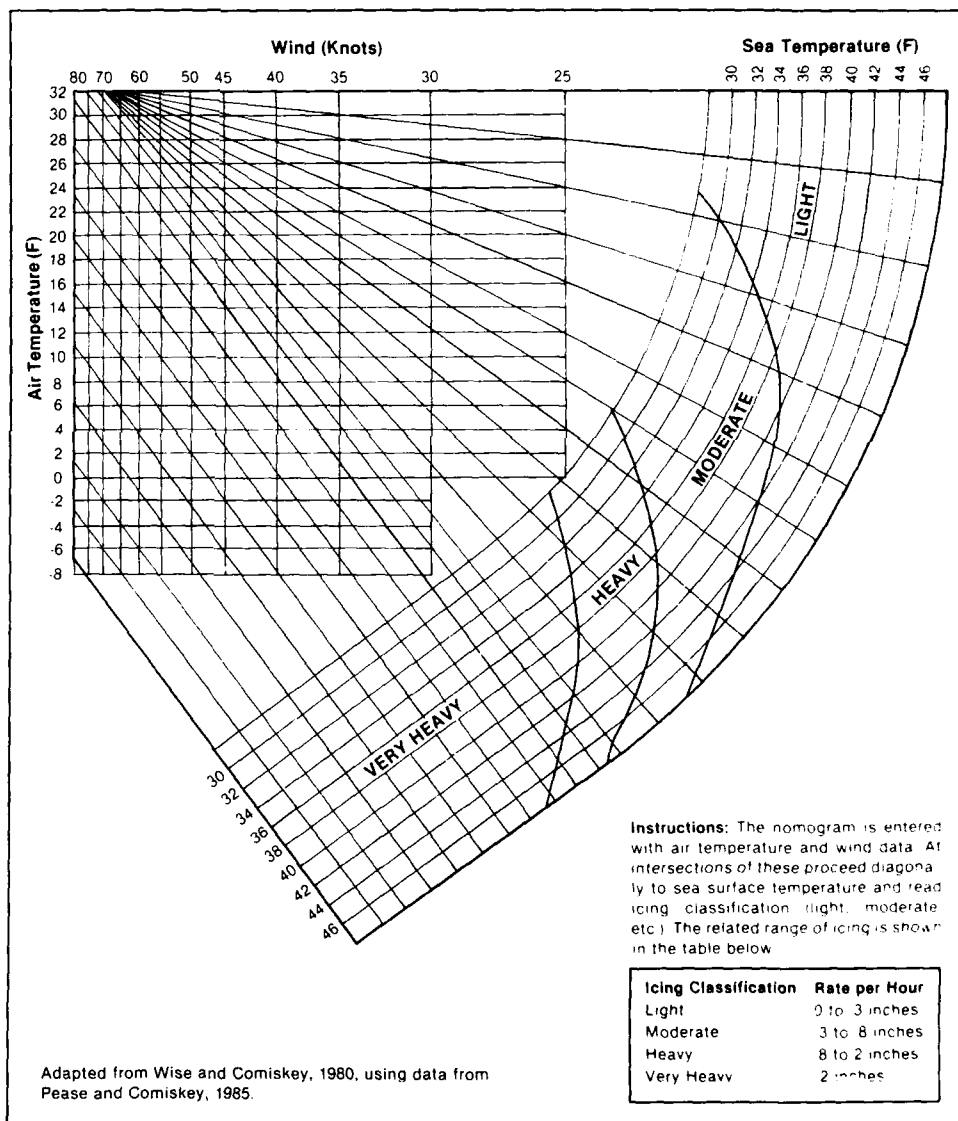
Since the overwhelming majority of superstructure icing on ships and offshore structures is from sea spray, the remainder of this section will concentrate on this type of icing. Since a ship can present different aspects to the wind and spray, it is to be expected that the amount of spray reaching the ship will vary: Russian observations (Kultashev, et al. 1972) showed that the greatest frequency of spray and, therefore, icing occurs when a ship is heading into the wind at an angle between 15° and 45°. Asymmetrical icing occurs under this condition, with the greater accumulation on the windward side. Less icing occurs with the ship headed directly into the wind, and then accumulation tends to be uniform. With ships heading downwind, spray icing is generally much less than at other angles. In developing the nomogram for forecasting spray icing potential, downwind cases (those for which the ship's heading was 120° or greater off the wind) were not used.

Meteorological/oceanographic conditions necessary for significant spray icing are water temperatures less than 8°C, winds of 25 knots (13 meters per second) or more, and air temperatures less than -2°C (28°F, the freezing temperature of seawater of average salinity). Generally, the stronger the wind, and the colder the air and water, the higher the rate of icing on comparable vessels or structures. In some

cases, however, where the wind fetch is not sufficient to fully develop waves, icing rates are lower.

The accompanying potential superstructure icing rate nomogram (Figure 19) is a modification of that shown in Wise and Comiskey (1980), using the open ocean cases appearing in Pease and Comiskey (1985), developed

Figure 19. Superstructure Icing Rate Nomogram





from icing case histories in the Gulf of Alaska and southern Bering Sea. Icing intensities in inches per hour are also from Pease and Comiskey (1985). If a vessel experiencing icing takes evasive action (i.e., changes heading, reduces speed, seeks shelter, etc.), icing rates experienced would probably be less.

Reported cases of ship icing (Figure 20) in the northern Gulf of Alaska and the Bering Sea are shown from two sources; Borisenkov and Panov (1972) and WBH29 (Dyson 1975-83). The

lack of reported icing in the northern Bering may be a result of reduced ship traffic as well as conditions not favorable for icing. Kozo (1983) estimates a potential for superstructure icing for the northern Bering Sea in September, extending into Norton Sound in October, and even into the southern Bering during the most extreme conditions. Icing potential decreases in the north Bering as the sea ice cover advances; however, the potential for moderate or heavy icing downwind of the sea ice edge persists throughout the winter.

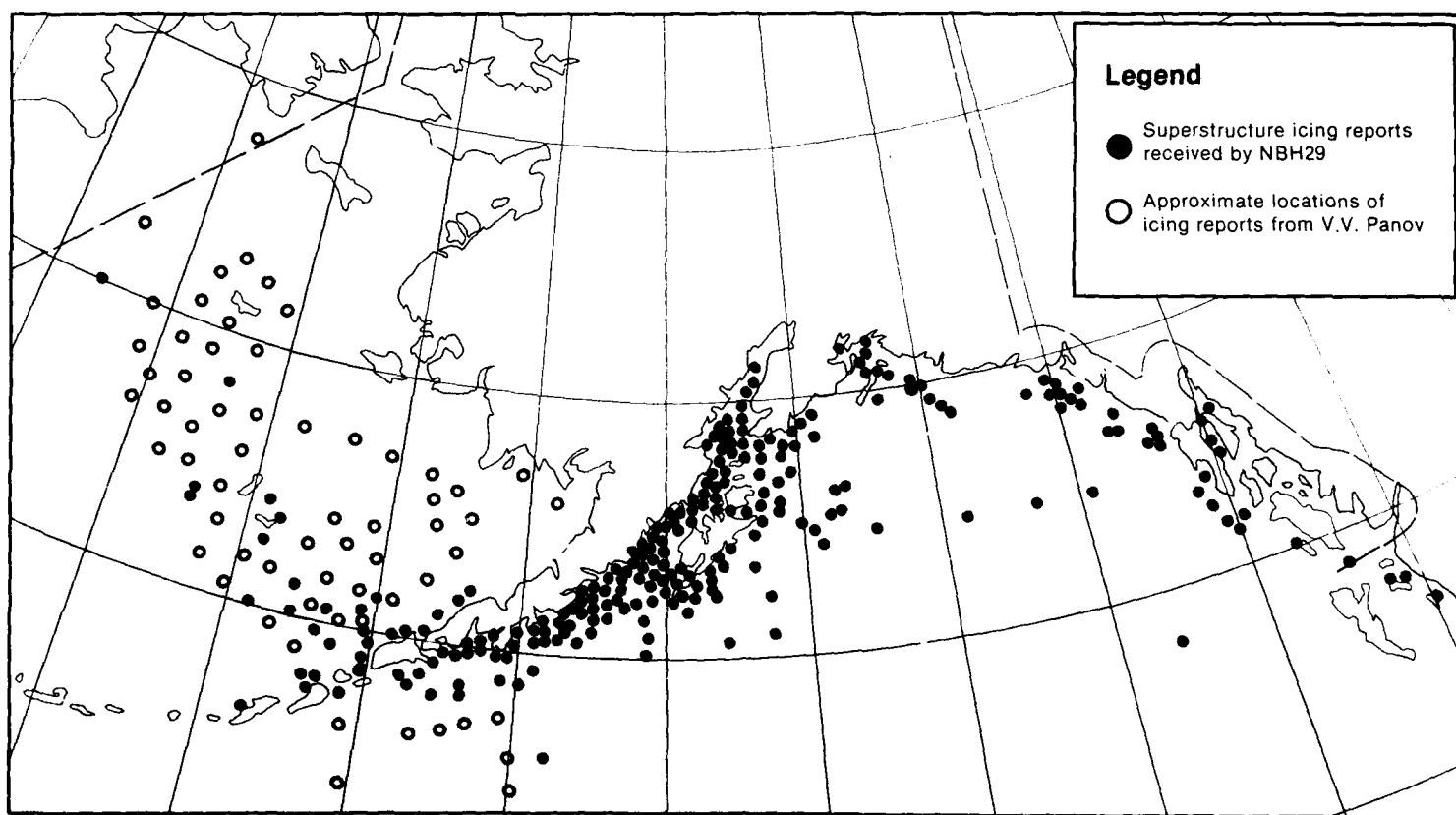
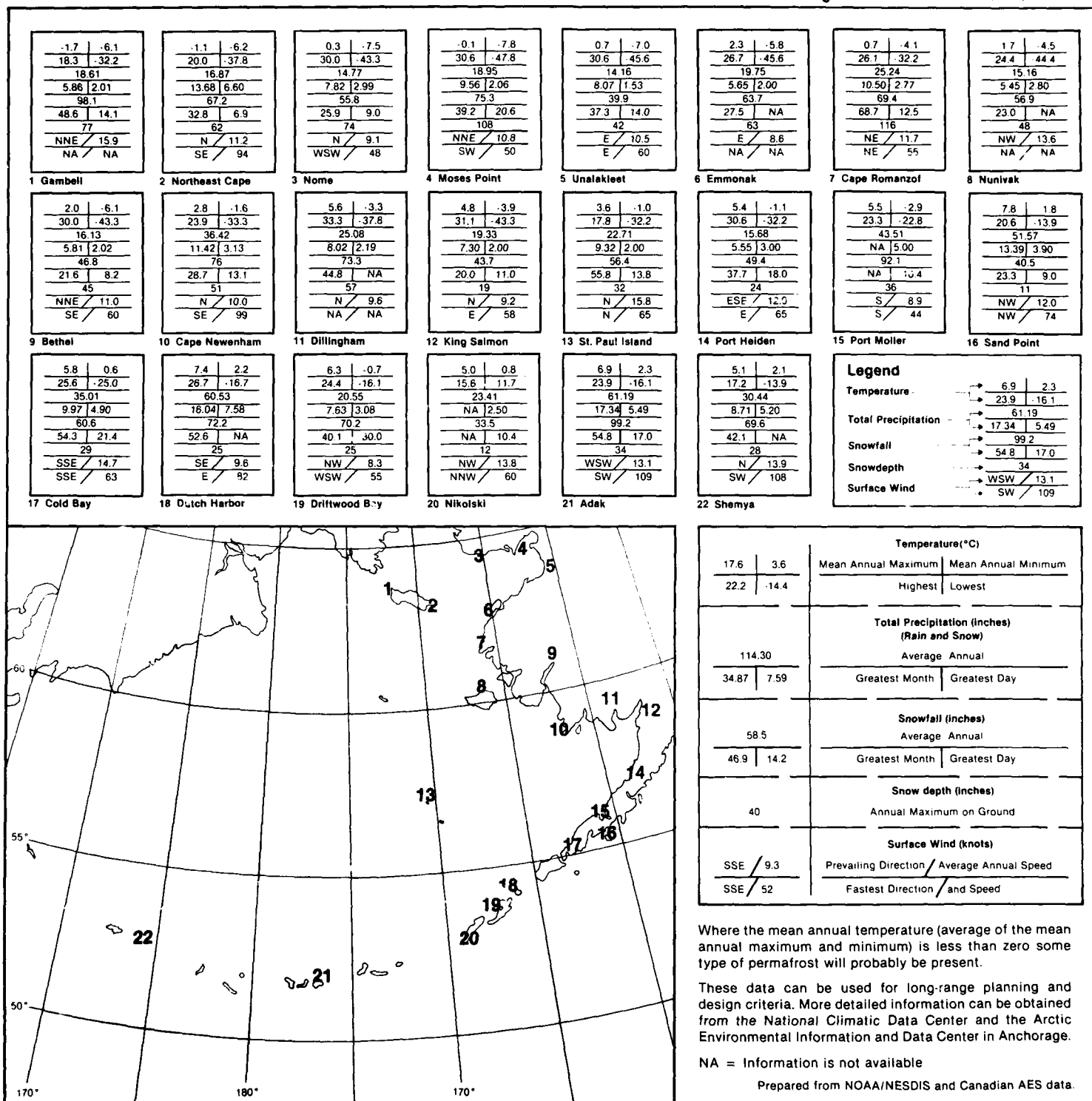


Figure 20. Related Occurrences of Superstructure Icing on Ships

Figure 21. Climatic Means and Extremes



# Hypothermia

Hypothermia is the cooling of the body's core temperature to 95°F or below. It can cause shivering, numbness, and disorientation. In the extreme it can cause death. The body loses heat gradually in cold, dry conditions, but quickly becomes hypothermic in wet conditions. Rain, immersion in cold water, and perspiration can all cause rapid heat loss. However, the evaluation and treatment of hypothermia, whether wet or dry, on land or water, is essentially the same, namely to warm the victim by whatever appropriate means are available.

The following discussion was taken in part from Peters (1982).

The body loses heat in five ways:

- A large amount of heat is lost from the body in respiration. Exhaled warm air is replaced by cooler inhaled air, producing a net heat loss. The amount of the net heat loss can be reduced by covering the mouth/nose with wool or fur, thereby "prewarming" the inhaled air as it passes through the material which has been warmed by exhaled air and by heat radiating from the body.
- Evaporation of perspiration from the skin and moisture from the lungs contributes greatly to the amount of heat lost by the body. Although evaporation cannot be prevented, the amount of evaporation (and therefore cooling) can be controlled. Wearing clothing that can be opened or removed easily for ventilation will let water vapor escape and not condense to liquid water in the clothing. Keeping clothing dry preserves its insulating value and reduces heat loss.
- Sitting on snow, touching cold equipment, and being rained upon are all examples of how heat can be lost as a result of conduction. If an individual becomes wet a tremendous amount of body heat is lost rapidly. Deaths have occurred as a result of immersion in water below 40°F—body temperature could not be maintained. Although not as immediately serious, perspiration, rain, or wet snow should never be allowed to saturate articles of clothing, as this seriously reduces their insulating properties.

- Radiation causes the greatest amount of heat loss from the body from uncovered surfaces, particularly the head, neck, and hands. Coverage of these areas, therefore, is extremely important in keeping warm.

- The body continually warms (by conduction) a thin layer of air next to the skin. If the warm layer is removed by wind or air currents (advection), the body is cooled. The primary function of clothing is to retain this layer of warm air next to the skin by enclosing air in cell walls or between numerous fibers, while allowing water vapor to pass outward. Heat is lost rapidly with the lightest breeze unless the proper type of clothing is worn to prevent the warm air from being advected away.

Deaths have been attributed to a loss of body heat at temperatures of 40°F, with a 30 mph breeze. Under these conditions, the cooling effect on the skin is equal to that of much lower temperatures due to increased evaporation and convection. With lower temperatures and/or strong winds, cooling occurs even more rapidly. Wind protection and insulation (dead air space) can help ensure that body heat is retained at a safe level.

## Treatment

Recognition and proper treatment of hypothermia must be prompt. Delays even after rescue can cost a person his life. Low body temperature is the best indication of hypothermia. Blood pressure and pulse are also good indicators. The pulse is generally slow and irregular, while blood pressure is low.

The hypothermia victim is pale in appearance, the pupils are constricted and react poorly to light, and respiration is slow and labored. He will usually be shivering violently, with frequent muscular rigidity. There may also be an appearance of intoxication.

Emergency treatment must begin as soon as possible to stop the drop in body temperature. Wet clothing should be removed. If the body temperature is 97°F or above, no treatment other

than dry clothing and moving the victim to a warm area is generally necessary. If these are not available, the wet clothing should not be removed.

Combatting "afterdrop" in the core body temperature is extremely important. When heat is applied to the arms and legs, it causes those blood vessels to relax. This allows cold blood to flow back into the body core, further cooling the vital organs. Warming of the trunk of the body should be the prime concern.

During experiments in conjunction with the U.S. Coast Guard, researchers determined that the best warming technique was from the inside out, by having the victim breathe moist, warmed oxygen (Wilson 1976).

The next best treatment is a hot bath, with the water temperature between 90 and 100°F. If a tub is not available, an inflated life raft could be used. If possible, the limbs should remain out of the water. When no tub-type facility is available, a hot (115°F) shower while wrapped in towels or blankets is preferable.

When hot water for a tub or shower is unavailable, wrap the victim in blankets in a warm room with a heating pad or well-wrapped hot water bottle on the chest, or apply body warmth by direct contact with a rescuer.

Warm liquids may be given, but care must be taken to insure the victim is conscious and does not breathe the liquid into his lungs. Alcohol should never be given because it causes "afterdrop." Observe the victim's respiration closely and monitor for vomiting.

It has been learned in studies done in Alaska that victims of wet hypothermia can survive for a prolonged time in cases of deep cooling. Apparently, in the rapid cooling which occurs with wet hypothermia, physiological changes undergone by the body are more likely to be reversible than in the slower cooling of dry hypothermia. There have been victims of immersion hypothermia who were apparently dead but revived with proper treatment.

Concepts in the following discussion of wind chill are from an appendix to an article by

**Figure 22. Equivalent Wind Chill Temperature**

This phenomenon can be readily proved. Place a laboratory recording thermometer with a thermistor attached (or any outdoor thermometer) out your car window on a calm day when the temperature is, say,  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ )—just a nice winter day in Anchorage, Alaska. Let it sit for a few minutes until the temperature

Wind chill may occur not only from natural wind, but also with air movement generated by automobile, snowmobile, aircraft, or helicopter rotoblade. These vehicles may predispose passengers to frostbite or general hypothermia.

## **Section II: Marine and Coastal Climatic Atlas**

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*by William A. Brower, Jr., Ronald G. Baldwin,  
and Claude N. Williams, Jr.*

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# Marine and Coastal Climatic Atlas — Section II

William A. Brower, Jr.  
 Ronald G. Baldwin  
 Claude N. Williams, Jr.

The marine observations used in computing the statistics for the maps, graphs, and tables in this section of the three-volume atlas were taken from the National Climatic Data Center's (NCDC) marine surface data files which include the Comprehensive Ocean Atmosphere Data Set (COADS). COADS is the result of a multiyear effort by NOAA and the National Center for Atmospheric Research (NCAR) to provide a quality-controlled marine data set which incorporates data from a variety of global sources for 1854-1979. Those files are: TD-1170 for COADS and TD-1129 for 1980-1985. Because relatively little data exist for near-coastal zones, observations from 66 U.S., Canadian, and Russian coastal stations were combined with the marine data in order to present the best possible climatological picture of the outer continental shelf waters and coastal regions of Alaska, and adjacent Canadian and Russian regions.

Data for the U.S. and Russian stations were taken from the edited digital files of NCDC and the U.S. Air Force's Environmental Technical Applications Center (ETAC) in Asheville, North Carolina. Digital data from the Canadian stations were purchased from the Canadian Climate Centre in Downsview, Ontario. All data were subjected to thorough computer and visual quality control in order to eliminate duplicate observations and exclude questionable elements detected during internal consistency and extreme value checks.

The percentages of the summarized 4.5 million marine and 8.5 million coastal station land observations that contain basic weather elements are:

	Marine	Coastal Stations
Wind	93.8	99.1
Visibility	79.5	97.5
Present weather	82.8	95.7
Total cloud amount	79.6	97.3
Low cloud amount	67.4	57.4
Sea level pressure	93.5	89.7
Air temperature	94.4	98.6
Wet bulb temperature	59.4	97.7
Sea surface temperature	85.6	—
Waves	65.4	—

The marine and coastal study area for which data were compiled and analyzed was expanded from 50°—80°N and 130°—180°W (in the 1977 atlas) to 40°—84°N and 110°W—160°E in order to afford greater coverage for each of the three atlas areas, with a minimum of overlap between areas. Element statistics (with observation counts) were generated for each of over 2,550 marine squares and 66 coastal stations within the study area, and then plotted by computer on monthly charts which have an albers equal-area conic projection. The marine plots were 1° latitude by 1° longitude squares for the latitude belt 40°—75°N and 1° by 2° areas for 75°—84°N. An analysis was performed on the entire marine and coastal study area in order to permit continuity between the three atlas areas. Meteorologists, aided by computer-drawn isopleth contours south of 65°N, drew isopleths (lines connecting points of equal magnitude) on 420 monthly element maps, and made subjective adjustments to the analyses when data biases or insufficient observations were evident. They also performed consistency checks in the sets of monthly patterns for each element and among elements, as well as comparative checks with other marine atlases and publications (see Reference).

Although more than a four-fold number of marine data above 65°N was available for this presentation than for the same area in the 1977 atlas, the amount remained inadequate to permit a detailed isopleth analysis by meteorologists or by computer-contouring routines. This was especially true for the cooler months when seasonal sea ice prevented ships of opportunity from frequenting the area. Isopleth analyses for the Chukchi-Beaufort Sea area, by necessity, were based principally on the plotted coastal stations' statistics, extrapolations of weather patterns identified in isopleth analyses for the warmer months, the period of greater data availability, and other marine and continental atlases and publications.

To supplement the isopleth analyses, nearly 16,750 monthly statistical graphs, tables, and roses were produced for 50 of the 66 land stations, 16 representative marine areas, and 43 5° by 5° marine areas. The graphics represent the objective compilation of all available data; they were not adjusted for suspected biases, and differences may be found when comparing the graphics data with the isopleth analyses.

For each topic set, all months are grouped in calendar order with one or two pages preceding each set containing the legend and narrative for that set. The legends contain detailed instructions on how to read the graphics and provide remarks which aid in interpreting the data. The following paragraphs contain additional remarks which are likely to be of interest to those called upon to interpret the data and provide answers to specific operational questions. The table on page II-4 describes the data and marine areas for this volume.

*A word of caution.* The intent of this atlas presentation was to gather and present existing data on climatological conditions within the marine and near coastal areas of Alaska and adjacent Canada and Russia. The data are presented without discussion and interpretations. Given the information presented in the introductory text, legend descriptions with related text, and number of observations (with measures of variability for some) displayed with the graphics presentations, the user should be able to assess the degree of statistical confidence in the presented climatology for a given month and location.

## Standard Deviation

Some of the graphs display approximation of the empirical probability of occurrence of selected criteria. This is a major factor in assessing the risk involved in operational planning. For certain elements, unbiased estimates of population standard deviations are given on the graphs to provide a measure of variability. The standard deviation was computed using the expression:

$$s = \left[ \frac{N \sum x_j^2 - [\sum x_j]^2}{N(N-1)} \right]^{1/2}$$

where N is the number of observations in the sample and  $x_j$  is the  $j$ th realization of the random variable  $x$ .

## Sea Ice

The ice isopleths presented in Sets 17-19 give the percent probability of finding ice of any kind, ice concentration of one-half coverage or more, and ice thickness of eight feet or more, within the Alaska study area. Actual concentration boundaries, under the influence of changing synoptic meteorological and oceanographic

situations, may vary widely from the averages. An isopleth label, therefore, does not explicitly define the conditions on either side of the line since presence of sea ice is discontinuous in nature and regions of 80% mean ice concentration may be bordering regions of 20% ice concentrations with no intermediate region of 50% ice concentration. However, the inherent continuity of persistence of sea ice features permit an isopleth presentation to provide meaningful information.

The sea ice data were derived from digitized weekly analyses of sea ice conditions based primarily on satellite imagery (90%) supplemented by ship and shore reports, and aerial reconnaissance. These weekly polar sea ice analyses have been operationally produced by the U.S. Navy/NOAA Joint Ice Center (JIC) since 1972. In 1981, JIC initiated a Sea Ice Digitization Program to digitize the weekly polar ice maps as they become available. NCDC was funded by the U.S. Navy to design software and digitize all weekly ice concentration charts available since 1972 and ice thickness charts available since 1980, and produce polar ice atlases based on data through 1982. The Antarctic Ice Atlas was published in 1985, and the Arctic West and the Arctic East Atlases in 1986 (U.S. Navy 1986). The U.S. Navy also funded NCDC to accelerate the digitization of the West Arctic weekly charts through 1985 and produce the ice statistics presented in this atlas.

### Low Pressure Center Movement

The roses and tracks of the low pressure center movement maps presented in Set 22 are based on 20 years of Northern Hemisphere track charts (January 1966 - December 1985) prepared by the National Weather Service's National Meteorological Center. These charts show cyclone tracks based on 6-hourly positions of closed centers. The NCDC was funded by the U.S. Navy to develop the software and digitize some 240 monthly cyclone track charts to permit inclusion of the statistics in this atlas. Frequencies of cyclone centers passing through 5° squares were analyzed by meteorologists within the 35°—80°N, 115°W—160°E area of the North Pacific Ocean to obtain the mean tracks. Primary tracks were selected along axes of maximum cyclone center frequency and secondary tracks along axes of moderate frequency.

### Persistence of Wind and Waves

Duration and interval tables are presented in Set 23 for wind speed and wave height. Seasonal and annual tables contain objective

compilations for 23 grid points in the Gulf of Alaska and Bering Sea. The statistics are based on numerically-derived wind and wave data generated by NCDC using the Hindcast Spectral Ocean Wave Model (SOWM), developed by Dr. Willard J. Pierson and others, in producing U.S. Navy's SOWM Climatic Atlases for the North Pacific and North Atlantic Oceans (U.S. Navy 1985). No SOWM data were available to produce persistence statistics for grid points within the Beaufort Sea (Vol. III) area.

Episodes of durations (continuous hours or days) of events and episodes of intervals (continuous hours or days) between events were tallied for various thresholds. These tables give an indication of how long an episode is likely to last once it has begun. For convenience, the time an episode persisted above a given threshold is arbitrarily referred to as a "duration" of the event. The times between episodes have been termed "intervals." Data were summarized on a seasonal and annual basis because 12.5 years of hindcast data were considered too small a sample to provide representative durations and intervals for long episodes of wind and wave conditions on a monthly basis. The winter season is January-March; spring, April-June; summer, July-September; and autumn, October-December (World Meteorological Organization, 1981).

### Return Periods for Maximum Winds and Waves

Tables of estimated maximum sustained wind speeds and wave heights for selected return periods are presented in Set 24 (Set 23 for Volume III). Estimates for winds are presented for 50 coastal stations within the 3-volume area and for 23 marine grid points within the Gulf of Alaska and Bering Sea areas (Vols. I and II). Hourly wind observations for the stations and numerically-derived wind and wave data generated by Pierson's Spectral Ocean Wave Model (SOWM) for the marine grid points were used in determining the wind and wave extreme estimates. No SOWM data were available for the Beaufort Sea (Vol. III) area. Following the method outlined by Lieblein (1954, 1974a, 1974b), these estimates were obtained by initially fitting an extreme value distribution to each station and marine grid point sample containing N maximum monthly or annual wind speed or wave height values, then inverting the distribution and computing extreme values for selected probabilities. Confidence bands were then computed following the techniques of Gumbel (1958), and Gumbel and Lieblein (1954).

The extreme value distribution has the form:

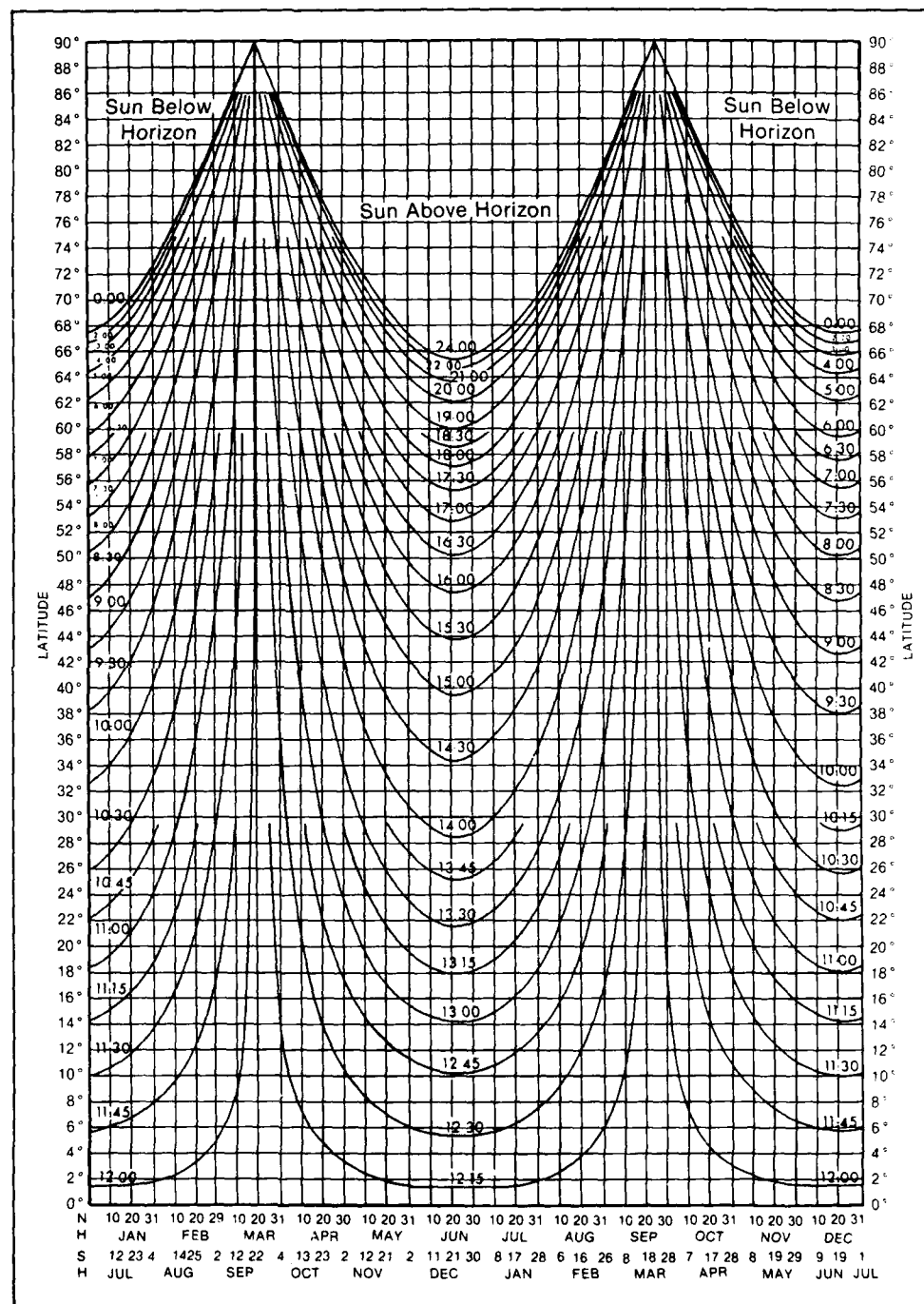
$$F(x) = F(x;\mu,\beta) = \exp \left[ -\exp \left( -\frac{x-\mu}{\beta} \right) \right]$$

where  $F(x)$  is the probability that our observations are equal to or less than the specified value  $x$ ,  $\mu$  is the mode, and  $\beta$  is the scale parameter. Since the wind data were transformed logarithmically,  $\mu$  and  $\beta$  refer to the transformed data, not to the wind maxima. The values given in the tables of Set 24 are the result of applying the natural logarithms of the N annual extreme wind to the extreme value model, determining the  $\mu$  and  $\beta$  for each data set, and then exponentiating the logarithms of the estimates to give the probability estimates in knots. The wave data were not transformed logarithmically and, therefore,  $\mu$  and  $\beta$  are in feet.

Graphic presentations similar to Figure 1 of Set 24 were drawn for each month and for the annual values, and are available on microfiche at the NCDC. The year/month extreme data for each station and marine grid point are also available on magnetic tape. These presentations provide a visual indication of the "goodness of fit" of the model to the data. The confidence limits shown by the envelope of lines about the line of "best fit" represent the level of uncertainty in the extreme value estimate corresponding to a given probability. For this study, 68% confidence limits were computed. This means that in 68% of repeated samples, the true extreme value will be contained within these limits.

### Duration of Daylight

The duration-of-daylight chart for the Northern Hemisphere defines daylight as the period from sunrise to sunset. The upper scale at the bottom of the chart is for the Northern Hemisphere; the lower scale is for the Southern Hemisphere. For example, daylight on July 20 of any year at 48°N is about 15 hours and 30 minutes for any longitude. The data source was the U.S. Naval Observatory (1945) and is accurate for the entire twentieth century. Further details may be obtained from *The Daylighter* of the Navy Weather Research Facility (1960). Additional light (during twilight) may be usable for many purposes. Duration of daylight in high latitudes (poleward of about 60°) becomes increasingly dependent upon atmospheric conditions and refraction, and there may be some departure from the values depicted on the charts.





## Volume II

The following stations and representative marine areas have data plotted for analysis and graphics.

Land Stations	Lat.(°N)	Long.(°W)	Data Processed	No. of Obs.	No. of Obs./Day
Adak	51.9	176.7	Jan 1949-Apr 1985	264,528	8-24
Buhta Providenja	64.4	173.2	Jan 1959-Apr 1985 +	54,876	8
Cape Newenham	58.7	162.1	Jul 1953-Jan 1971; Jan 1973-Apr 1985	231,968	14-24
Cape Ozerney*	57.7	163.3E	Jan 1959-Jul 1976 +	34,509	8
Cape Romanzof	61.8	166.0	Mar 1953-Dec 1968; Jan 1973-Apr 1985	226,254	17-24
Cape Shipunskiy*	53.1	160.0E	Jan 1959-Dec 1963; + Jan 1969-Jul 1976	25,082	8
Cold Bay	55.2	162.7	Jul 1955-Apr 1985	164,612	8-24
Khatirka-In-Chukot	62.1	175.3E	Jan 1959-Apr 1985 +	41,972	8
King Salmon	58.7	156.7	Jan 1949-Apr 1985	221,433	8-24
Nikolski	52.9	168.8	May 1959-Nov 1968	27,370	8
Nikol'skoe	55.2	166.0E	Jan 1959-Apr 1985	66,800	8
Nome	64.5	165.4	Jan 1945-Apr 1985	255,656	8-24
Northeast Cape	63.3	169.0	Jan 1953-Nov 1968	120,922	14-24
Port Heiden	57.0	158.6	May 1975-Apr 1985	73,676	14-24
St. Paul	57.2	170.2	Sep 1949-Apr 1985	135,031	4-24
Shemya	52.7	174.1E	Dec 1948-Apr 1985	227,236	4-24
Topata-Olyutorskaya*	60.6	171.1E	Jan 1969-Jul 1976 +	14,920	8
Ugol'naja	63.1	179.3E	Jan 1959-Apr 1985 +	60,852	8
Unalakleet	63.9	160.8	Jul 1948-Apr 1985	182,001	6-24

+ Period excludes Jul 1971-Dec 1972.

\* Stations used for isopleth analyses only; no graphics produced.

Representative Marine Areas	Lat.(°N)	Long.(°W)	Data Processed	No. of Obs.
A	60-65	Coast-180	1879-1984	42,930
B	55-60	169-180	1905-1984	58,806
C	55-60	Coast-169	1908-1984	87,604
D	Aleutian-55	165-180	1888-1984	110,471
E	50-Aleutian	165-180	1881-1984	116,510
F	50-Coast	158-165	1872-1984	123,020

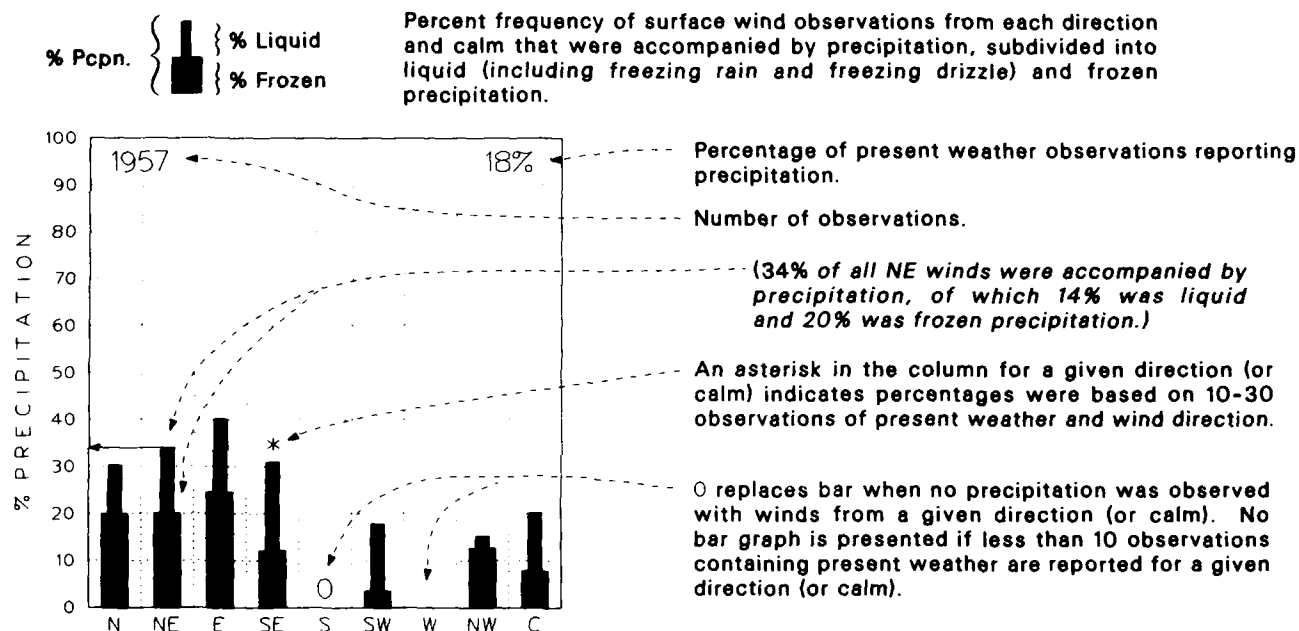
## Map 1. Precipitation

BLACK LINE – Percent frequency of observations reporting precipitation.

BLUE LINE – Percent frequency of precipitation observations reporting frozen precipitation.

Albers Equal-Area Conic Projection

### Graphs: Precipitation/wind direction



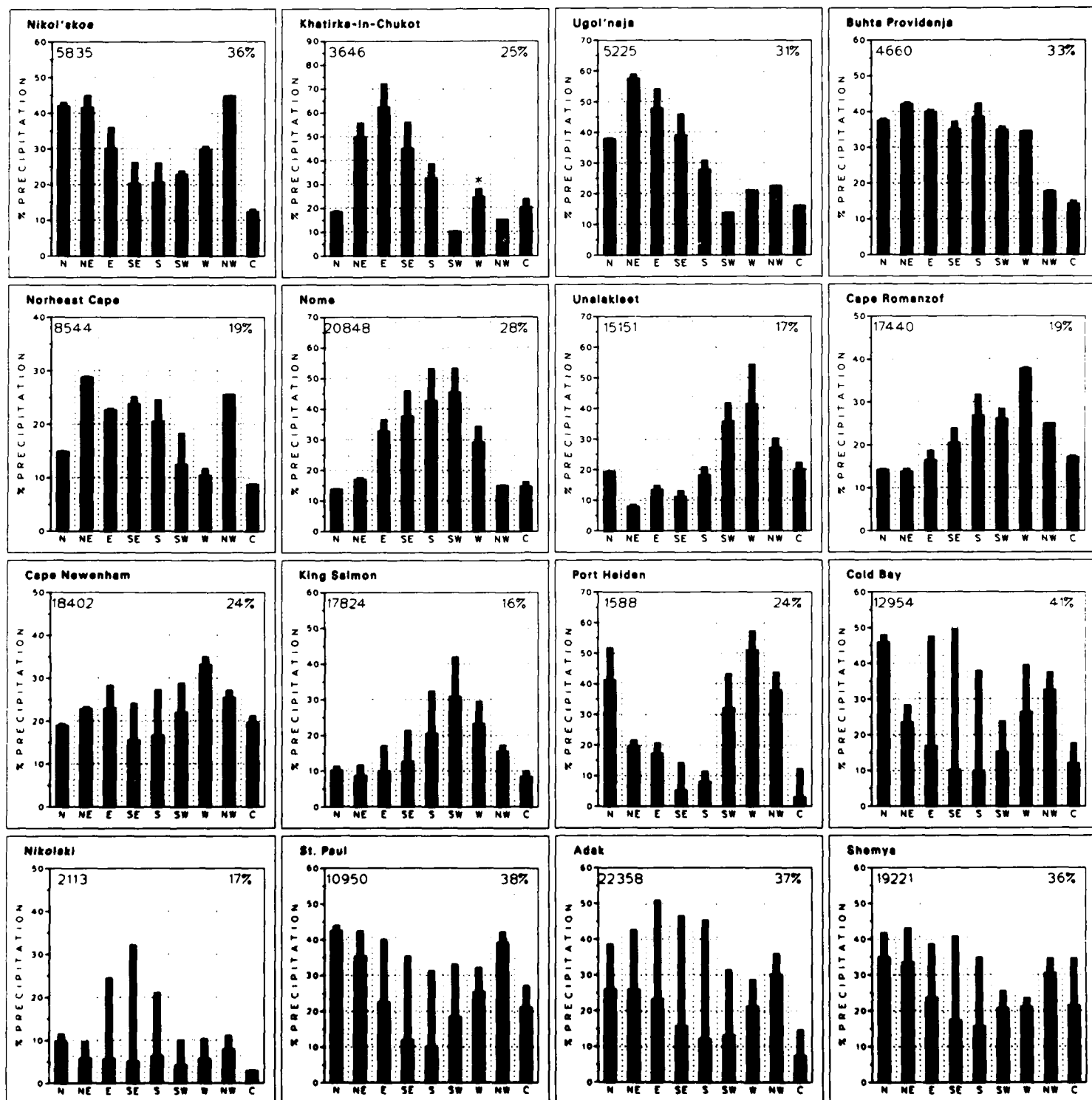
The percent frequency of observations reporting frozen precipitation for a given point on a monthly isopleth map can be determined by multiplying the percent frequency of observations reporting precipitation (BLACK LINE) with that of precipitation observations reporting frozen precipitation (BLUE LINE).

Of the elements recorded in the historical marine data base, precipitation is one that is most subject to error in both the way it is observed and the way it is interpreted. It is often implied in the literature that ships often try to avoid foul weather and thereby bias the oceanic climatology towards fair weather. A recent study by Elms (1986), in which he compared the Volunteer Observing Ship (VOS) data to Ocean Station Vessel (OSV) and buoy data, concluded there is little evidence that "fair weather bias" is a serious problem for most applications of marine climatic data.

Assessing oceanic rainfall data is a major problem because transit ships are unable to take quantitative precipitation measurements. A number of studies have been conducted in efforts to predict precipitation amounts, or rates of fall, based on estimates derived from the use of present weather observations from ships of opportunity (Goroch, et al., 1984) and readings from satellites (Rao, et al., 1976). Refer to the text and table in Set 2 for additional information about precipitation.

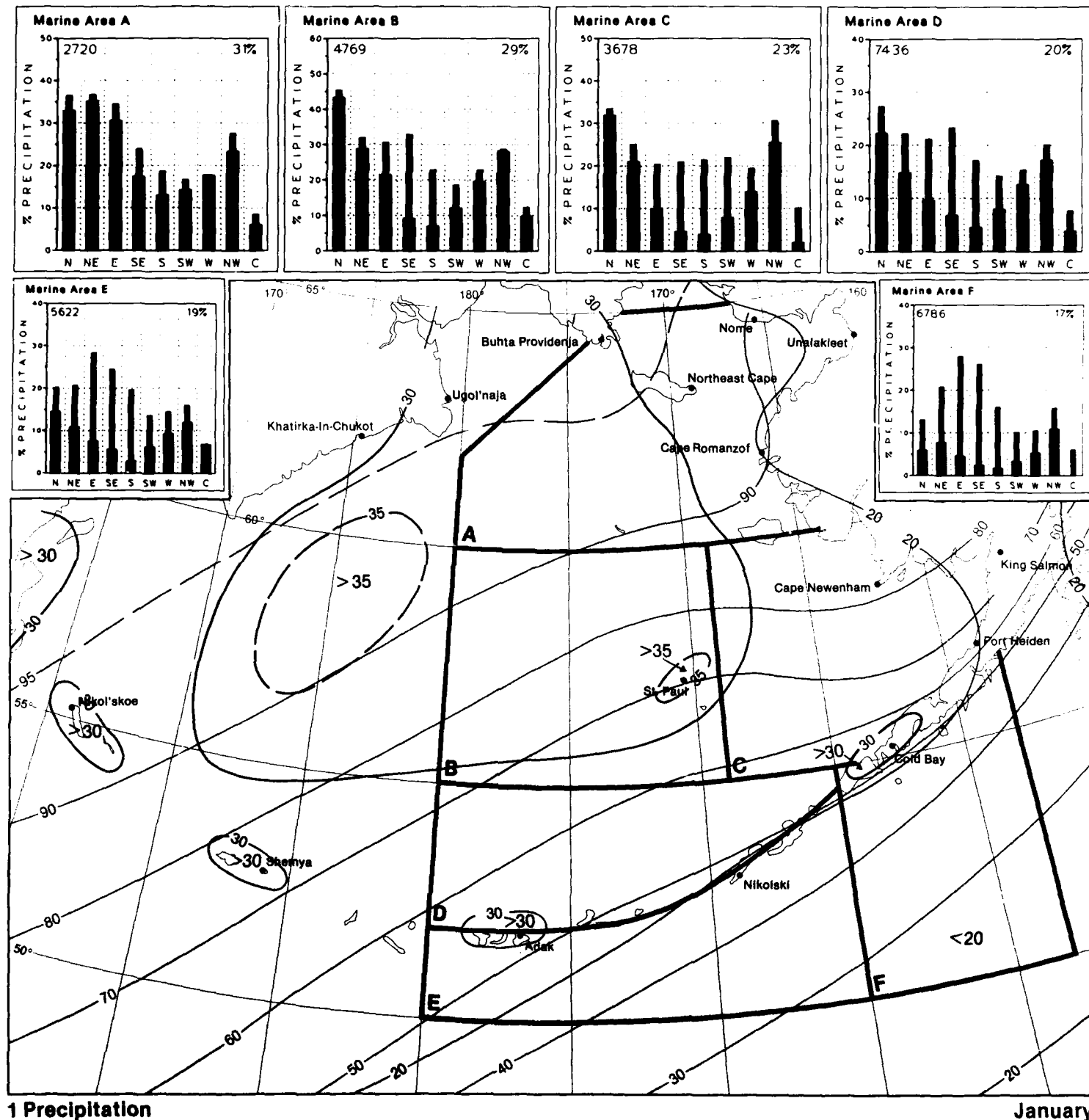
1 Legend

Legend 1



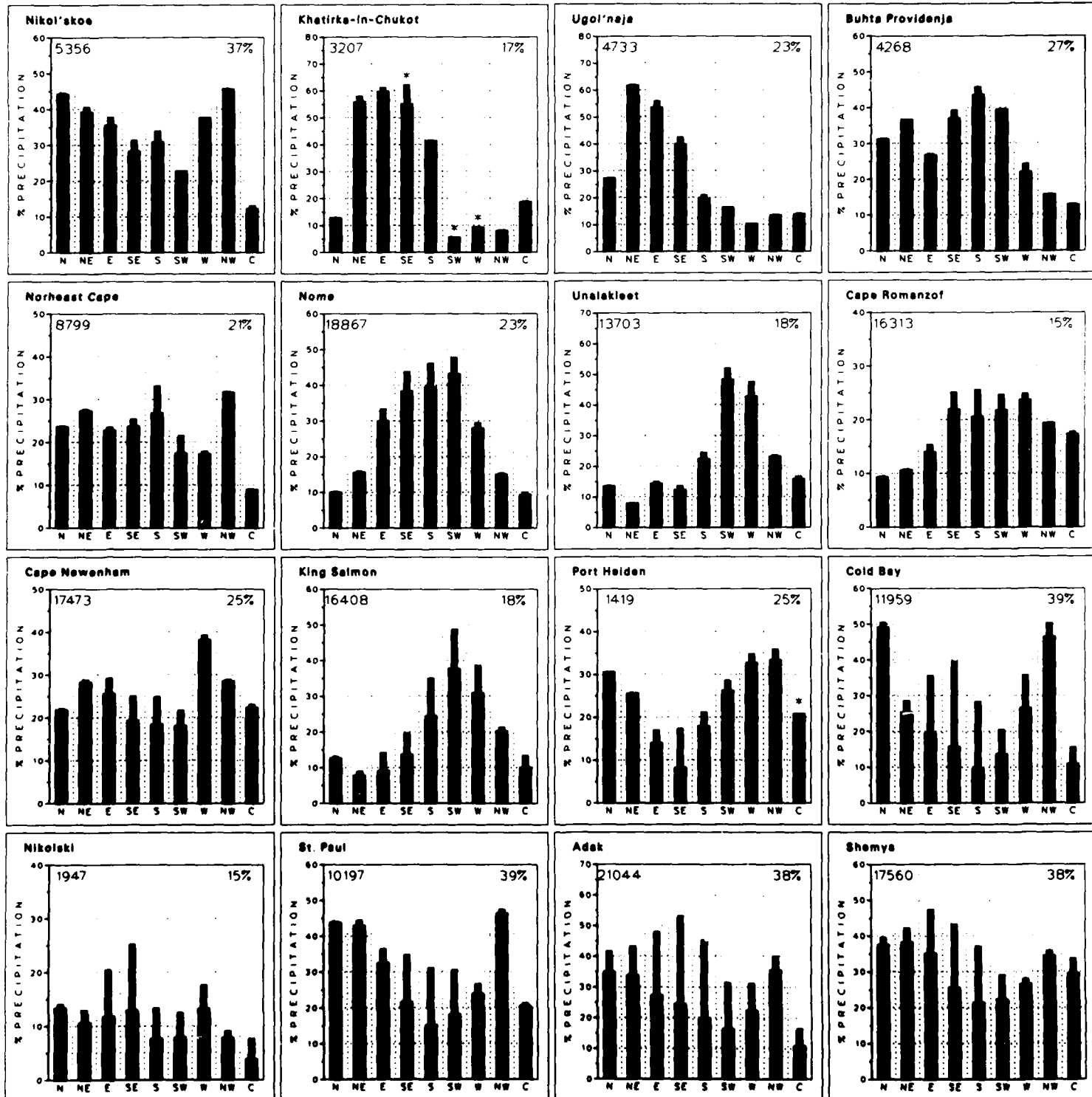
January

1 Precipitation and Wind Direction



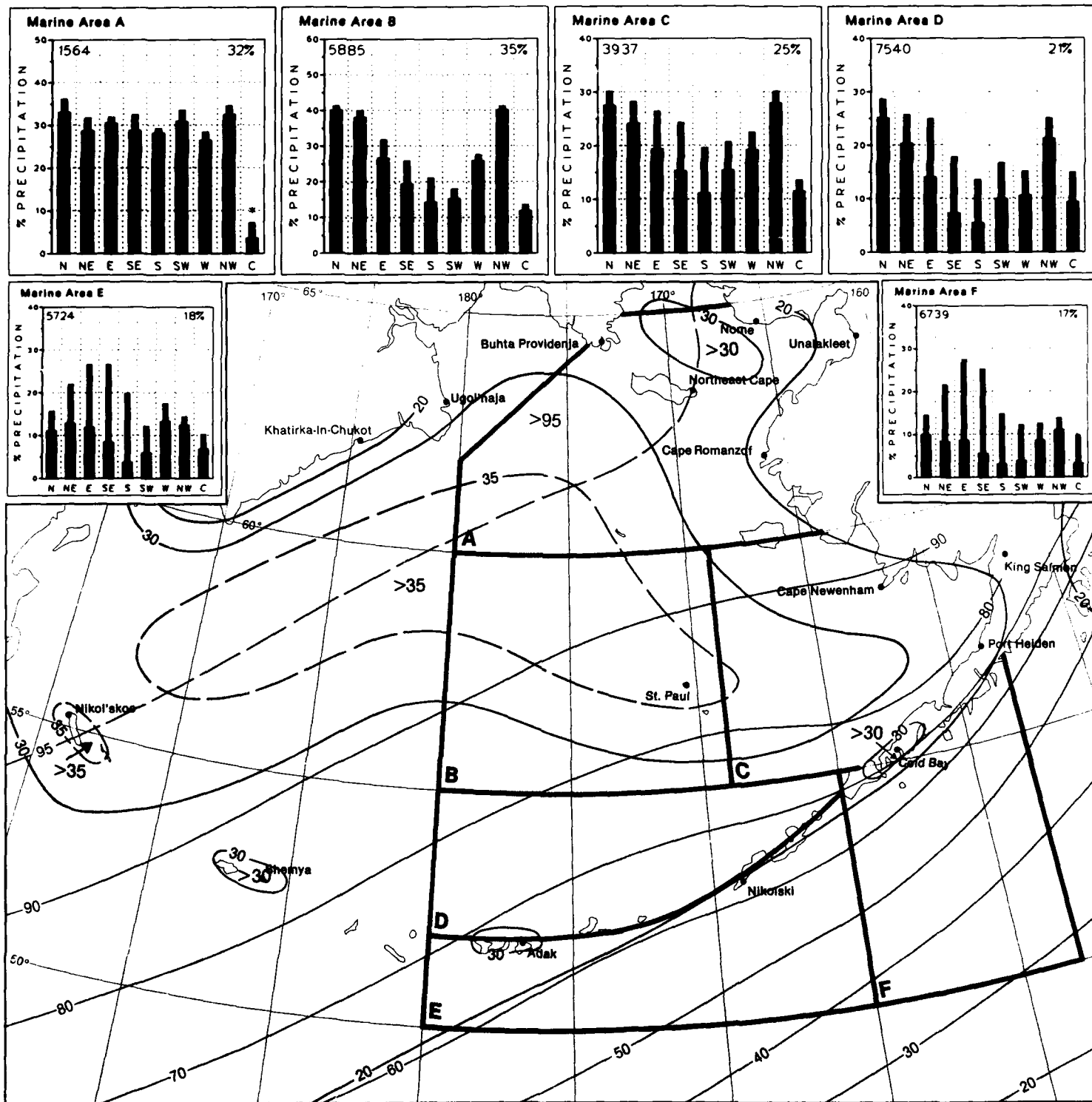
1 Precipitation

January



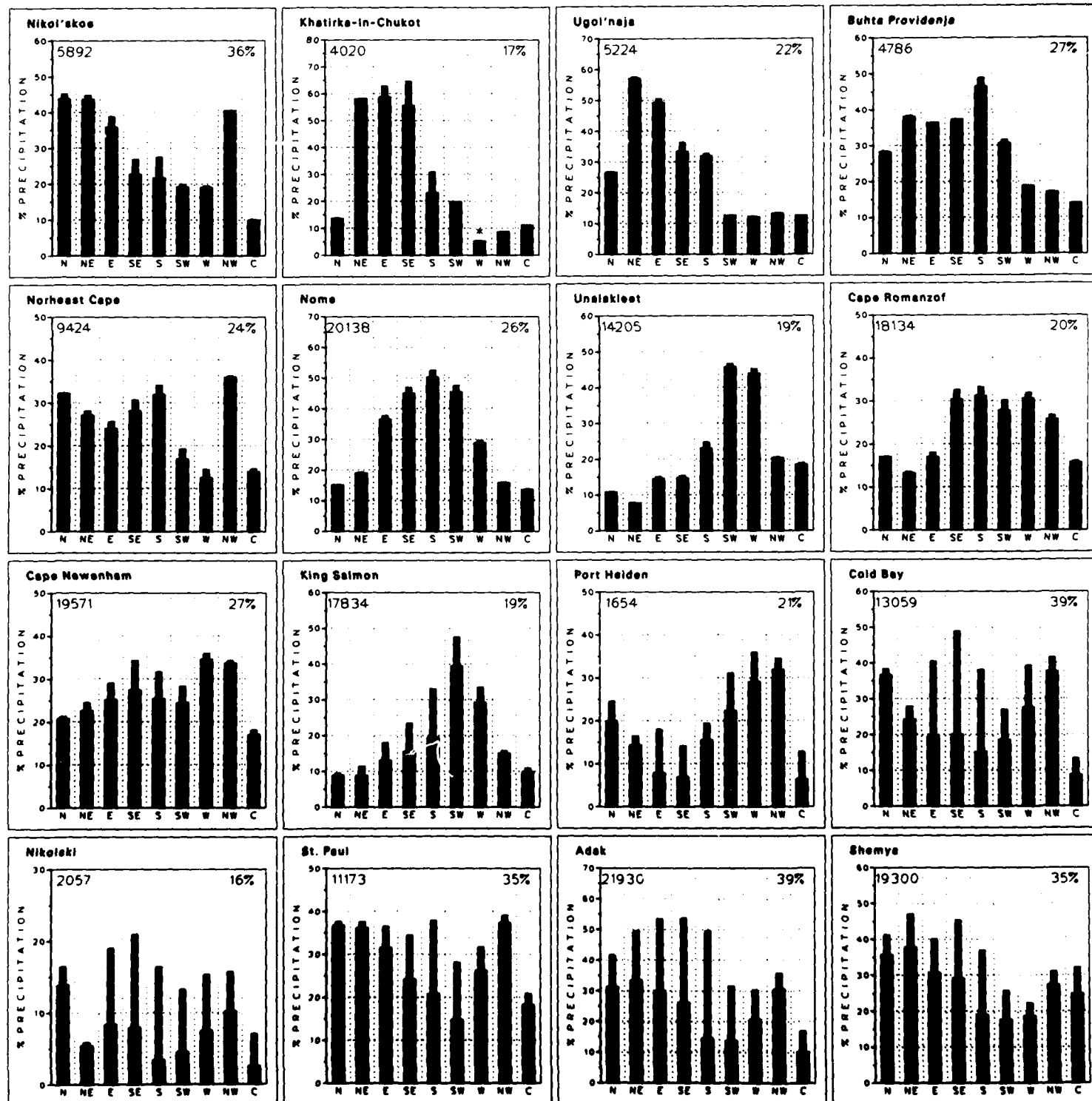
February

1 Precipitation and Wind Direction



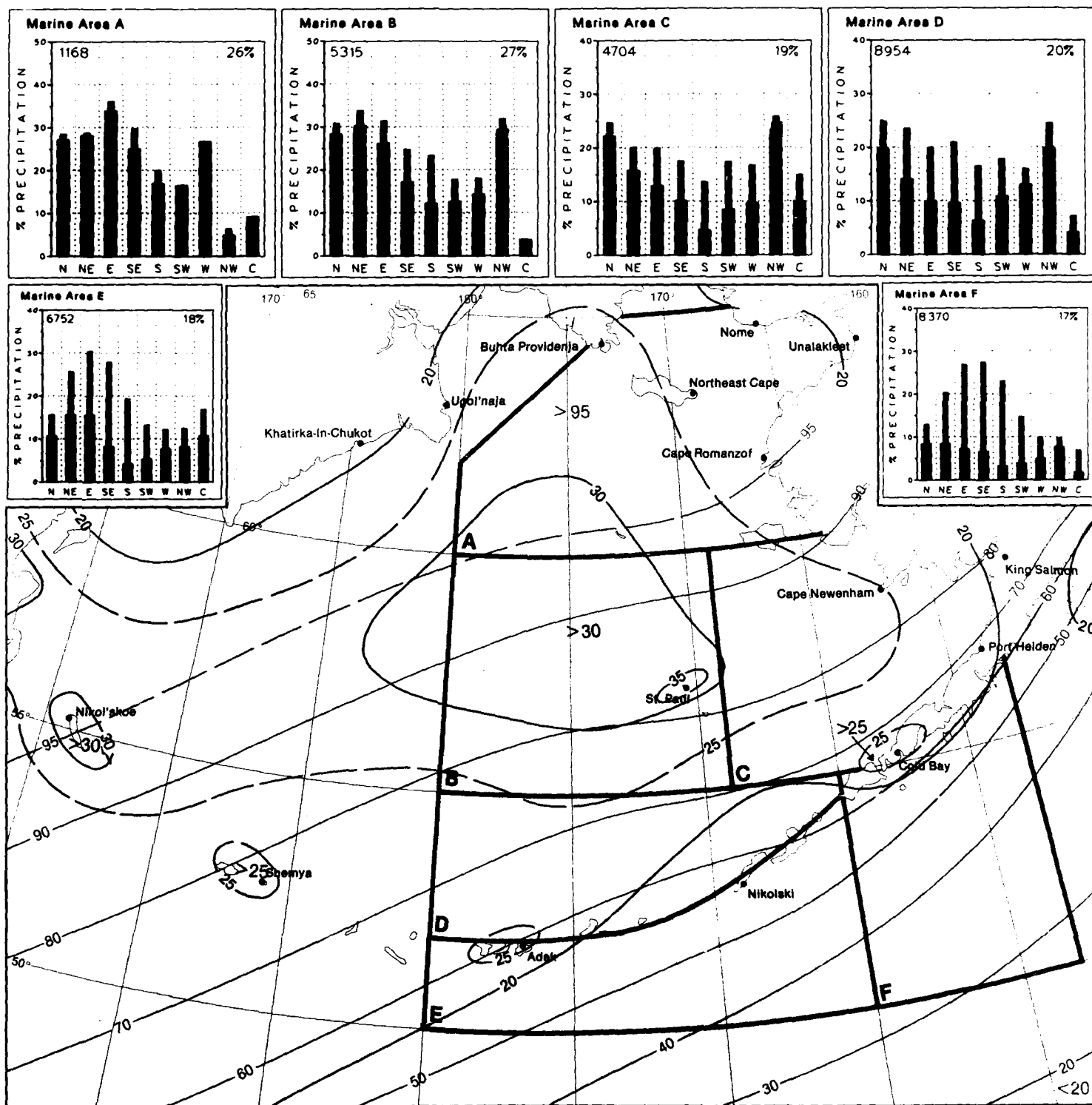
1 Precipitation

February



March

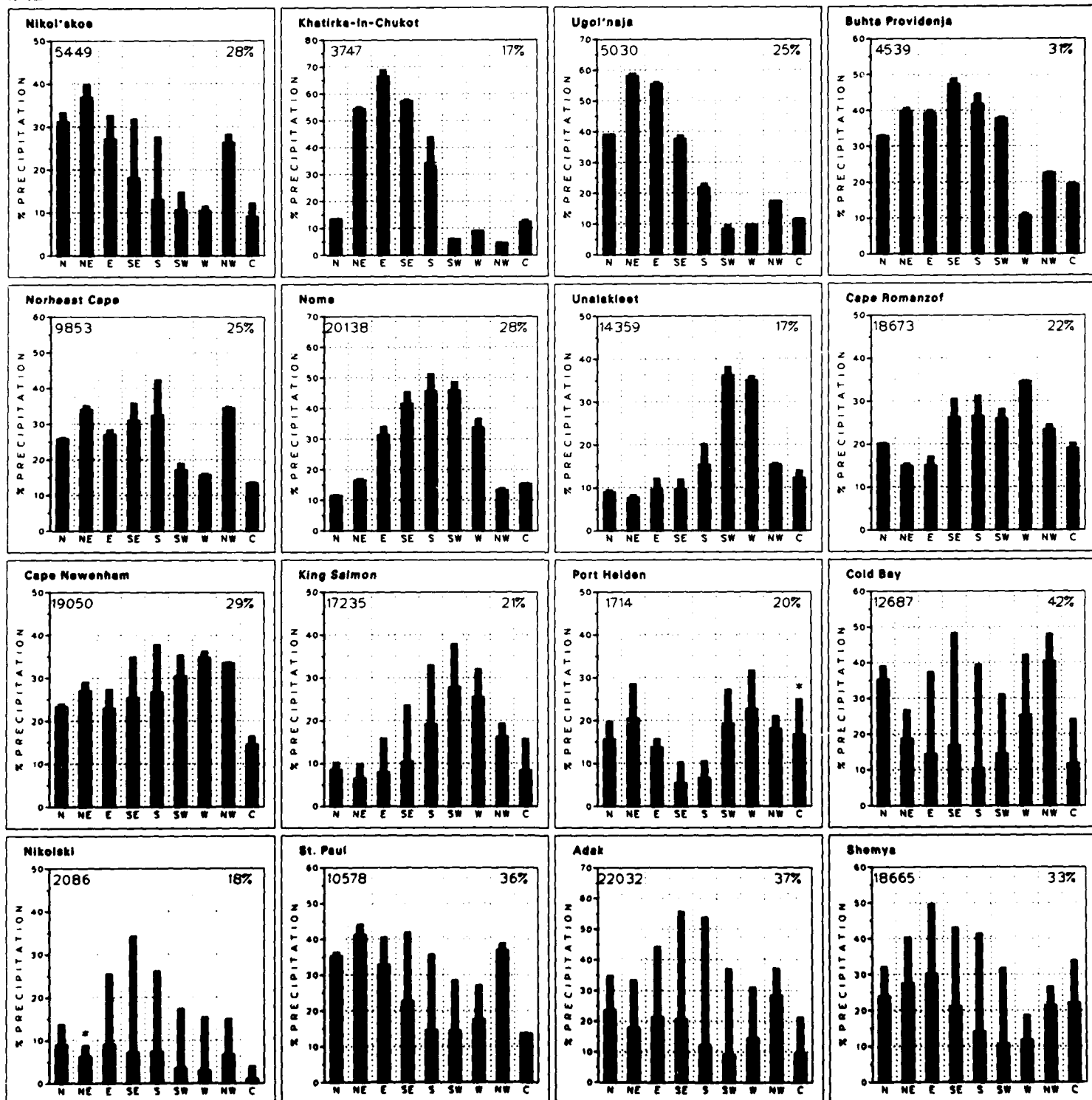
1 Precipitation and Wind Direction



1 Precipitation

March

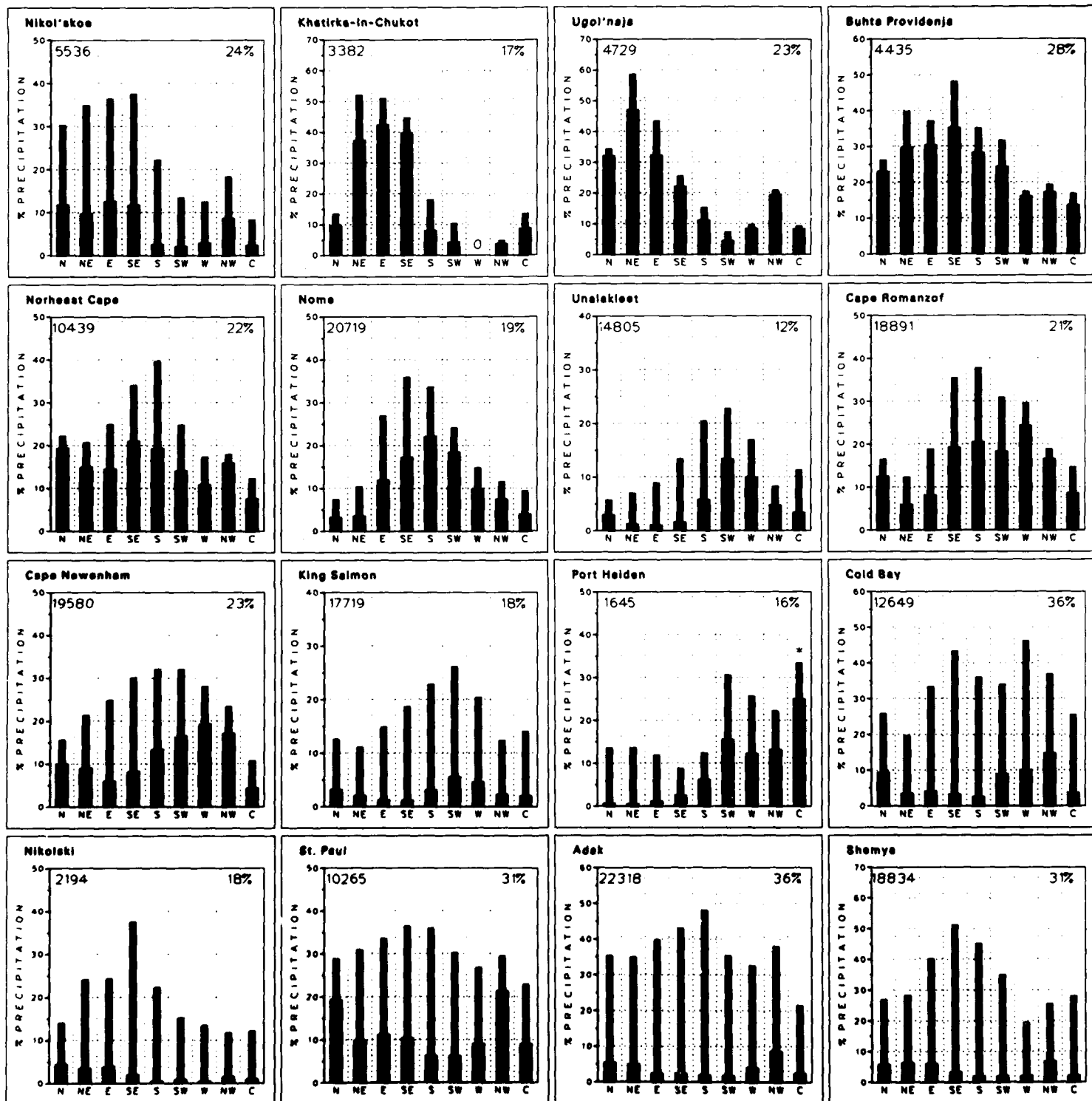




April

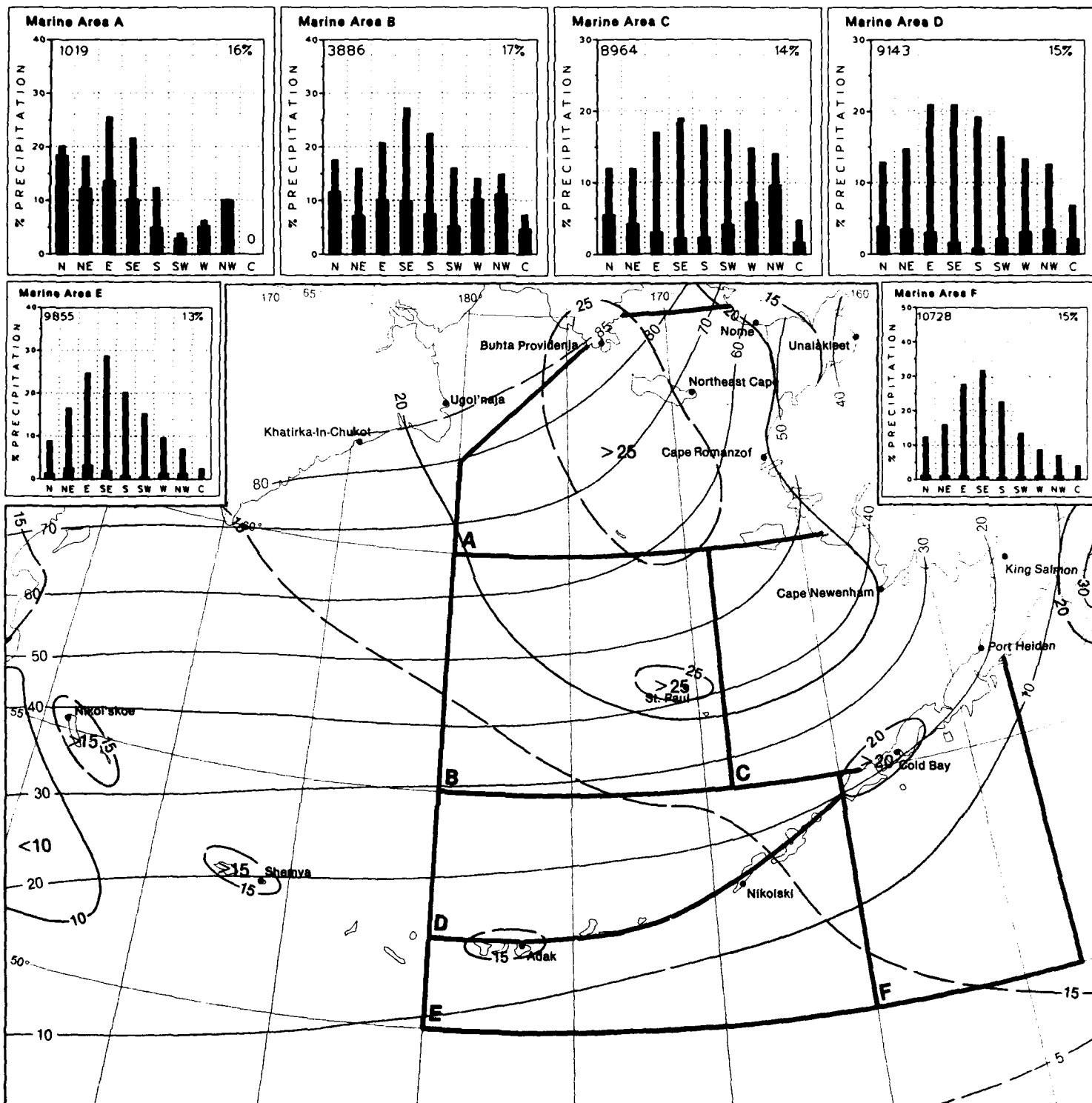
1 Precipitation and Wind Direction

## April



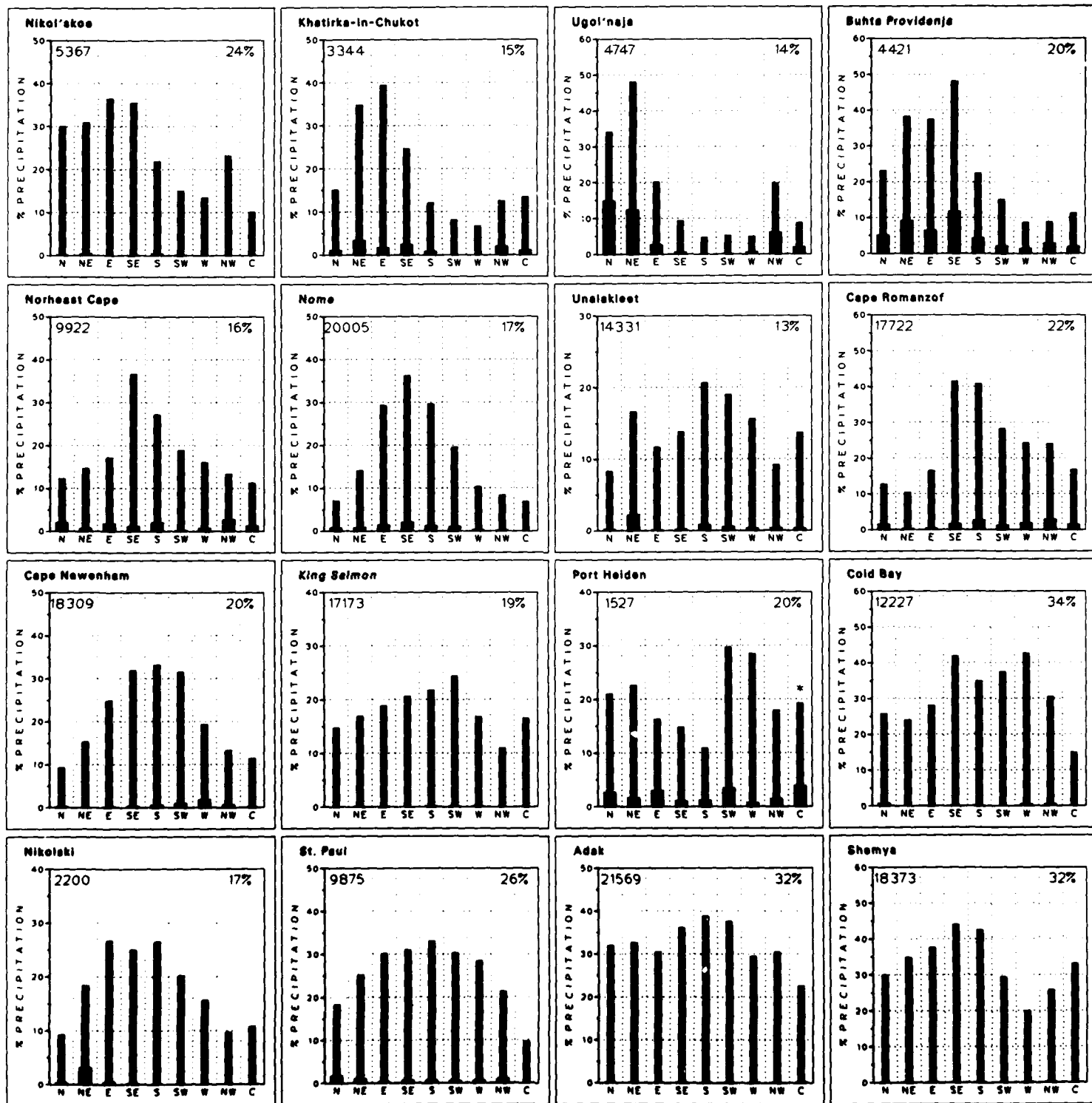
May

1 Precipitation and Wind Direction



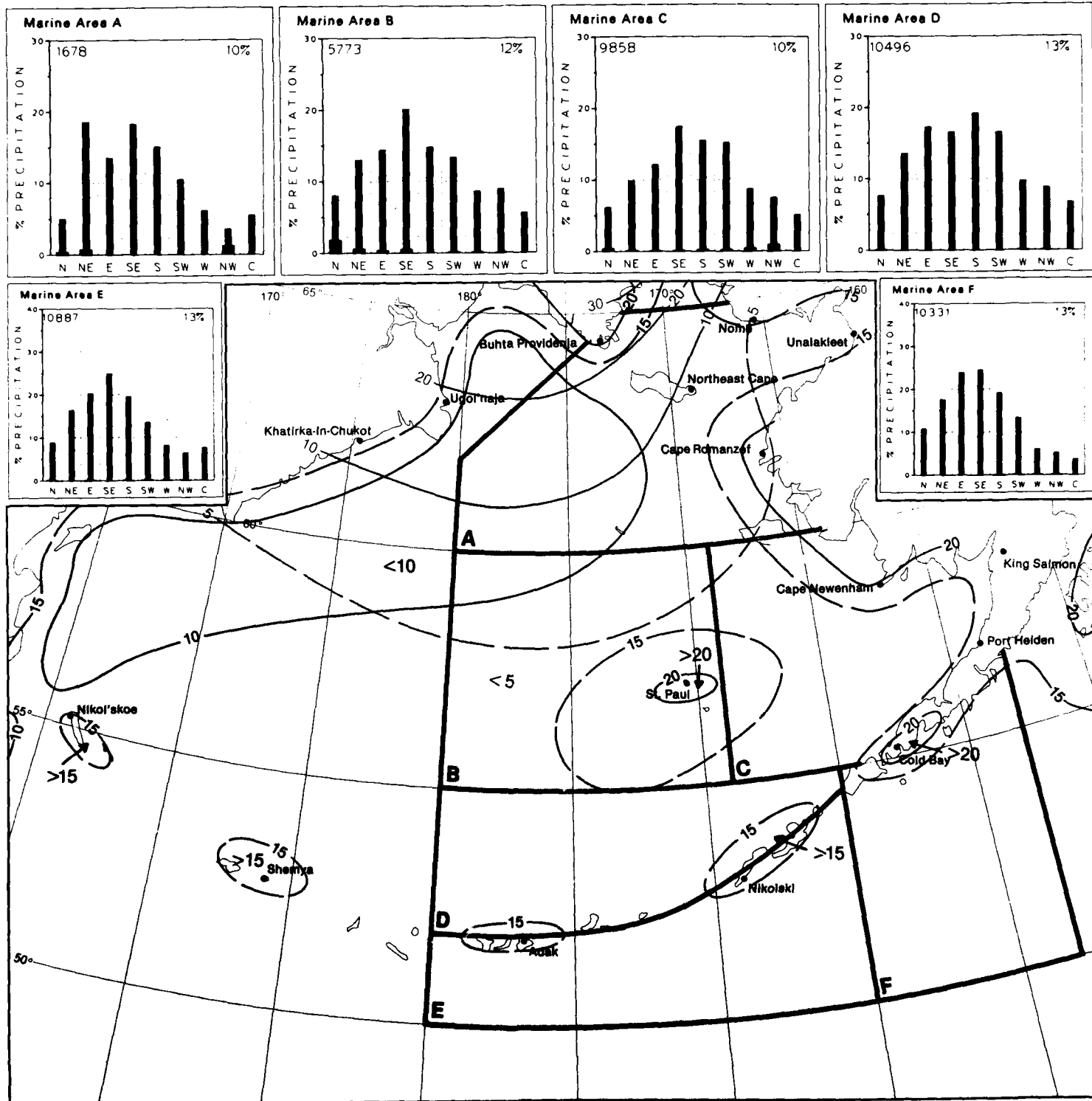
1 Precipitation

May



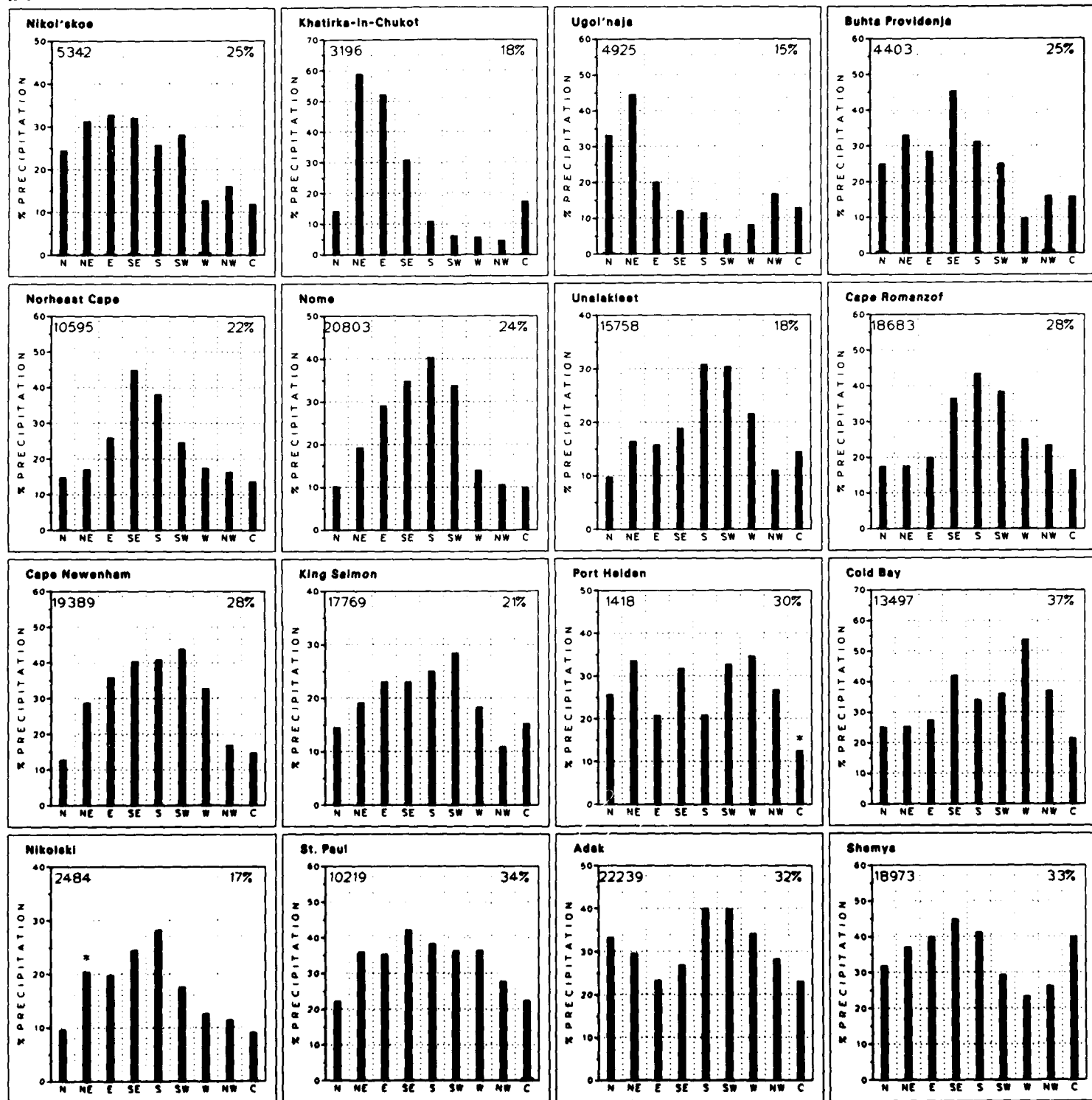
June

1 Precipitation and Wind Direction



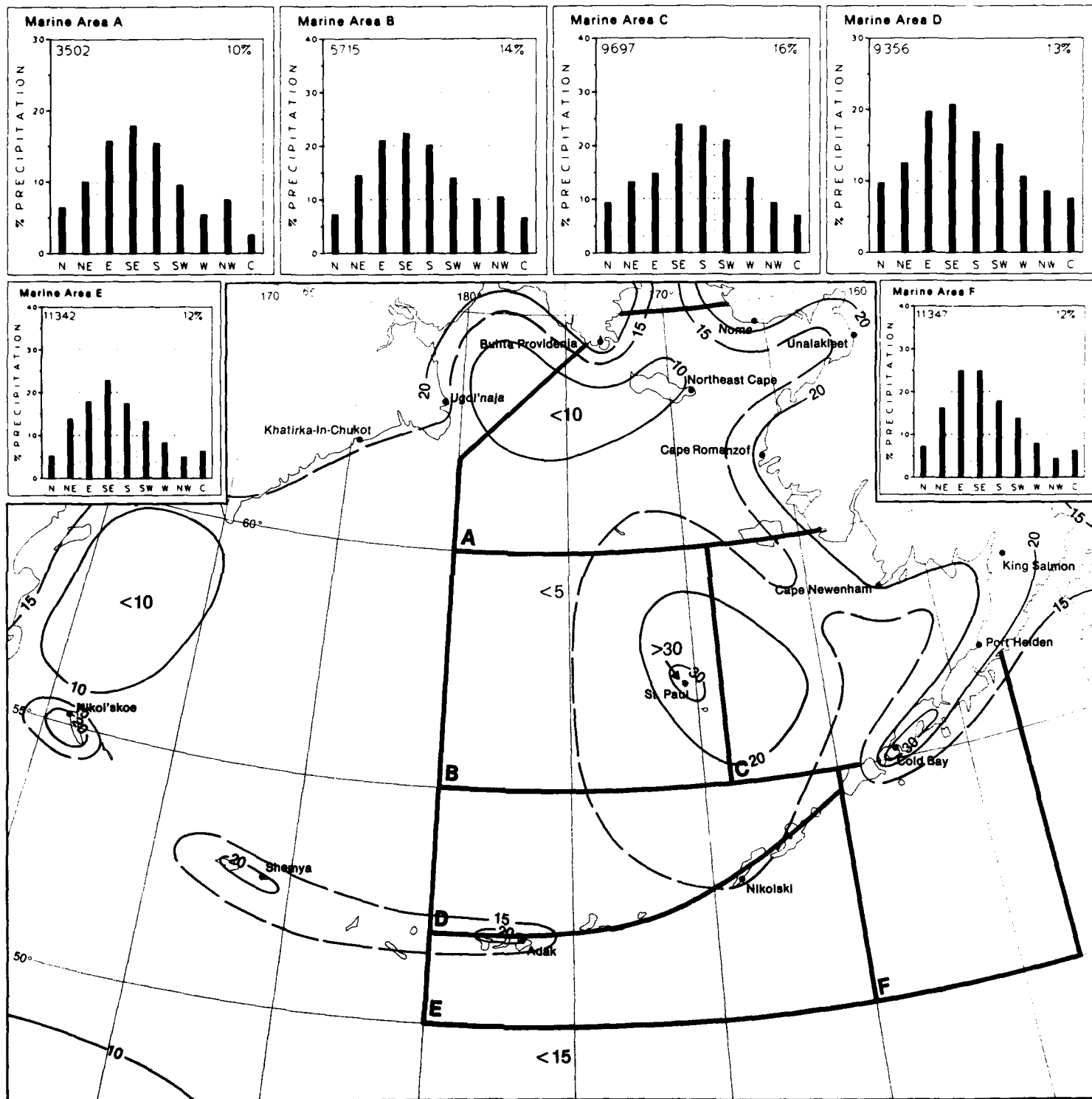
1 Precipitation

June



July

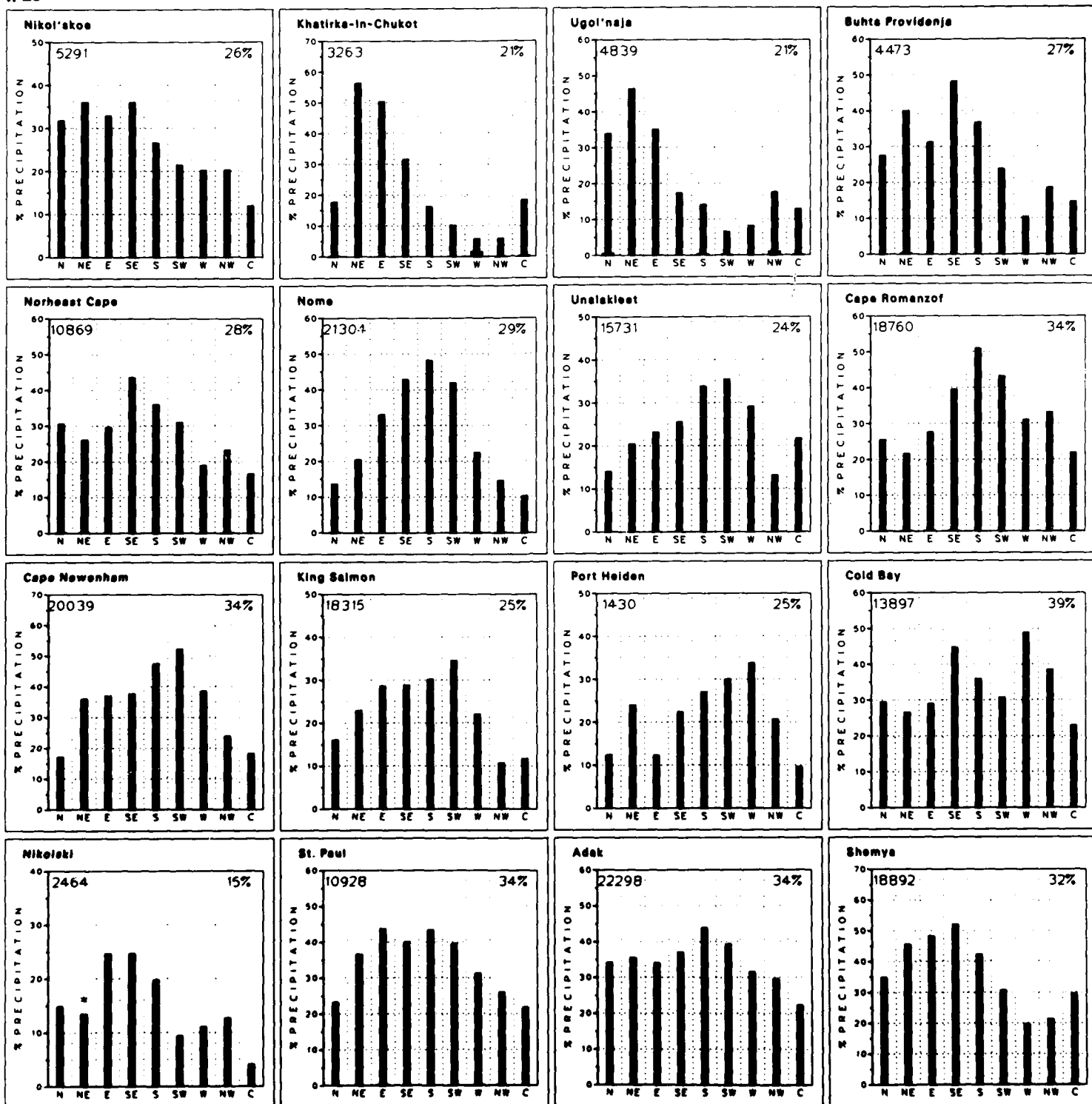
1 Precipitation and Wind Direction



1 Precipitation

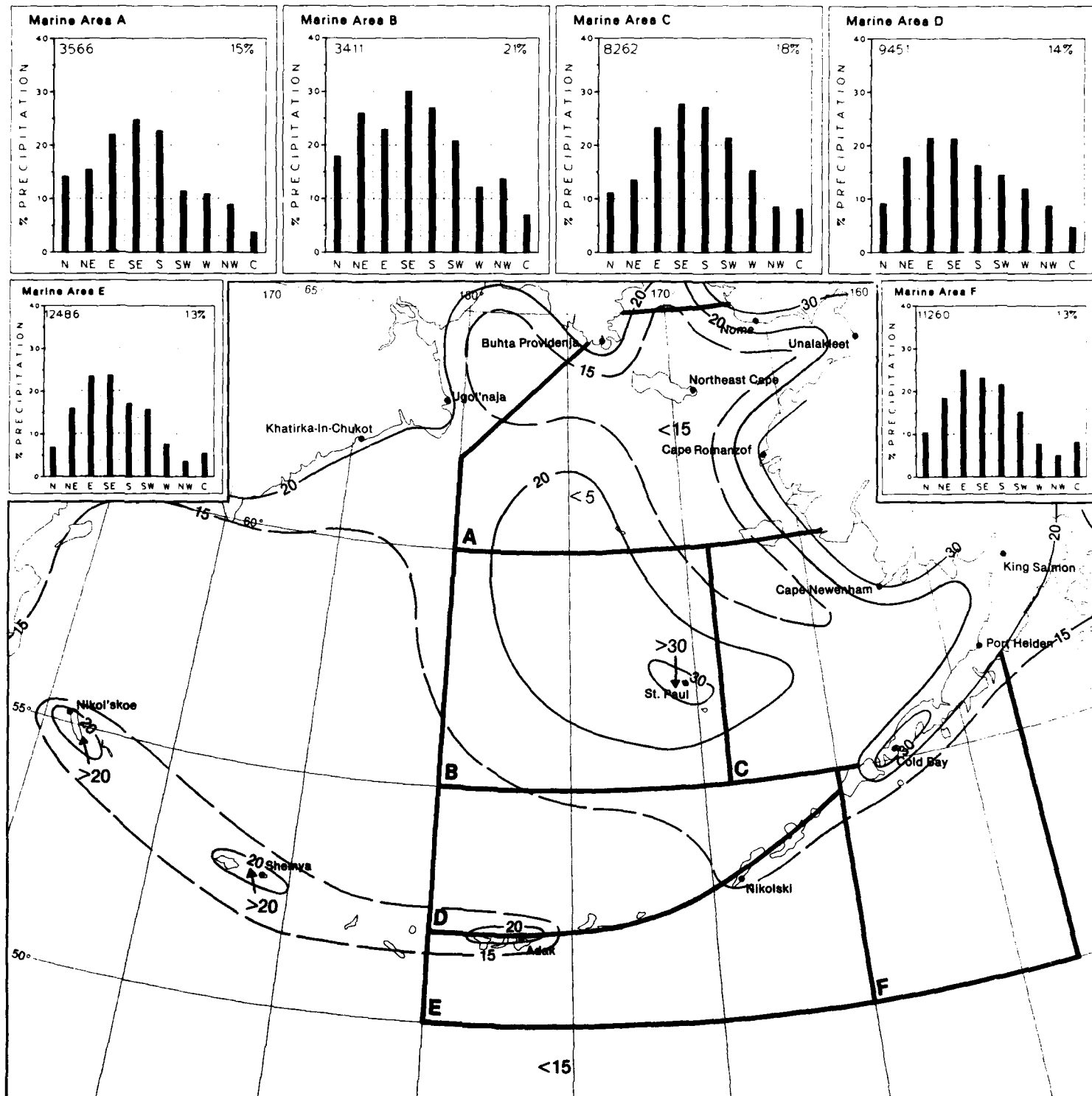
July





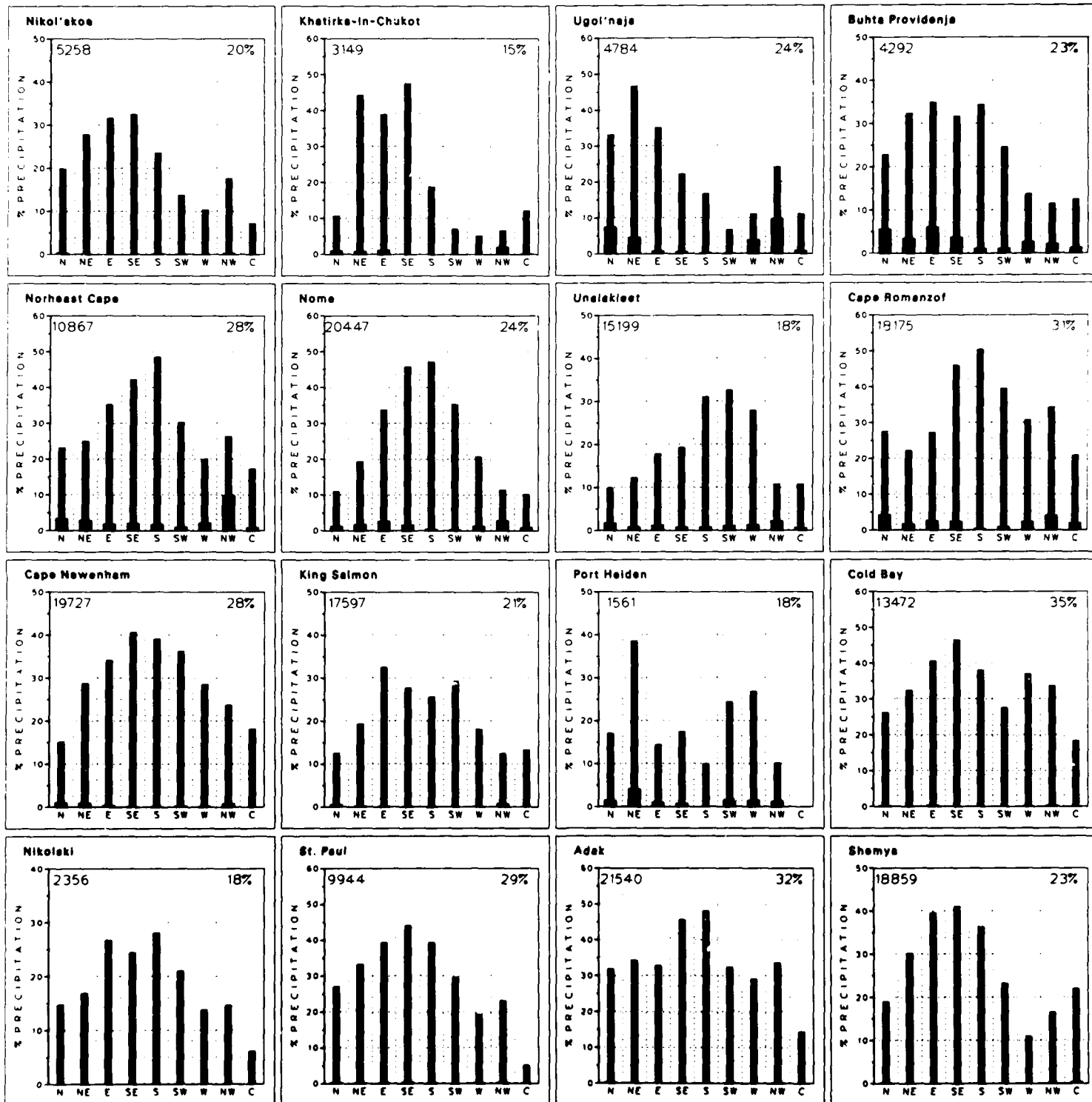
August

1 Precipitation and Wind Direction



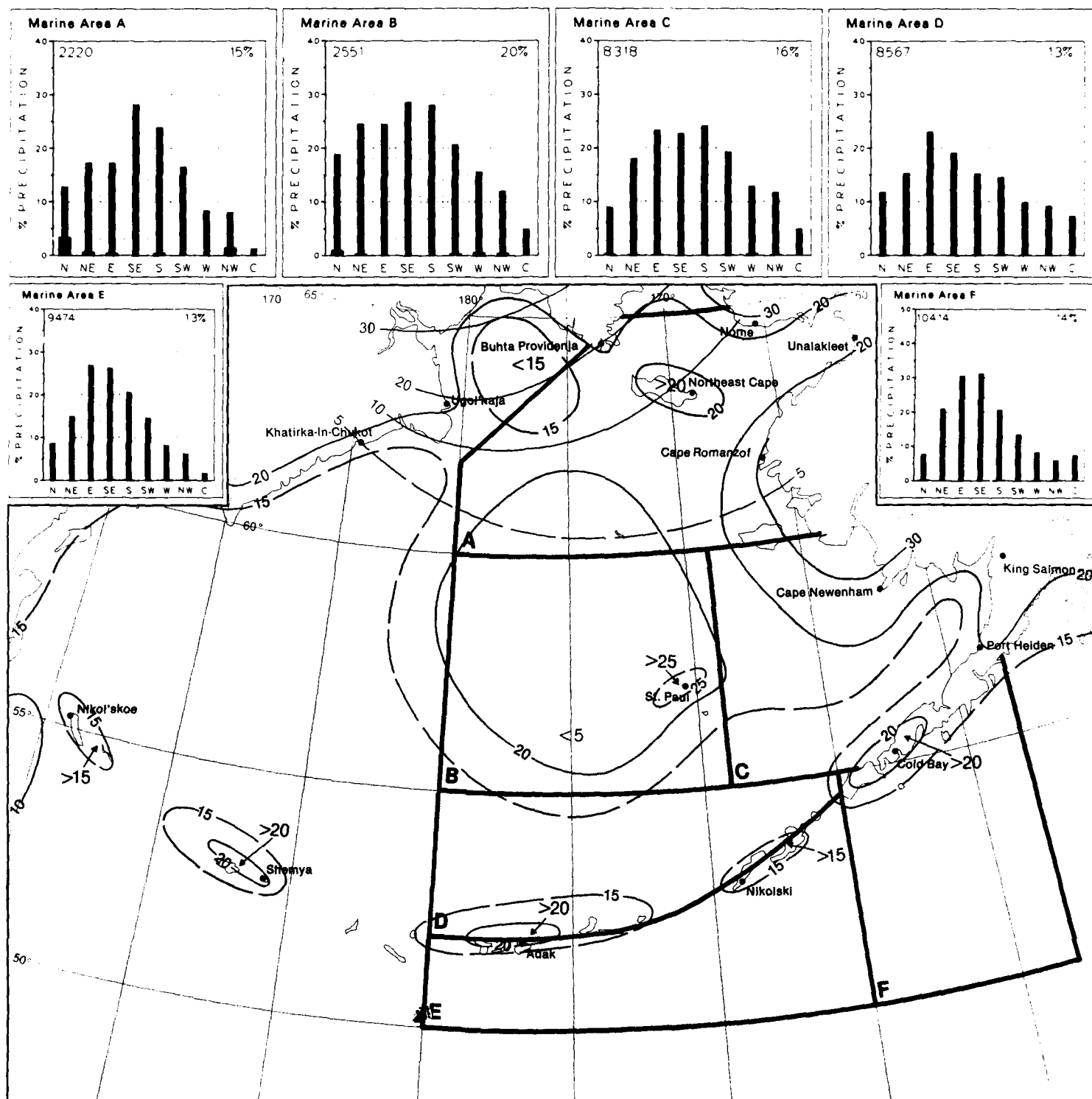
1 Precipitation

August



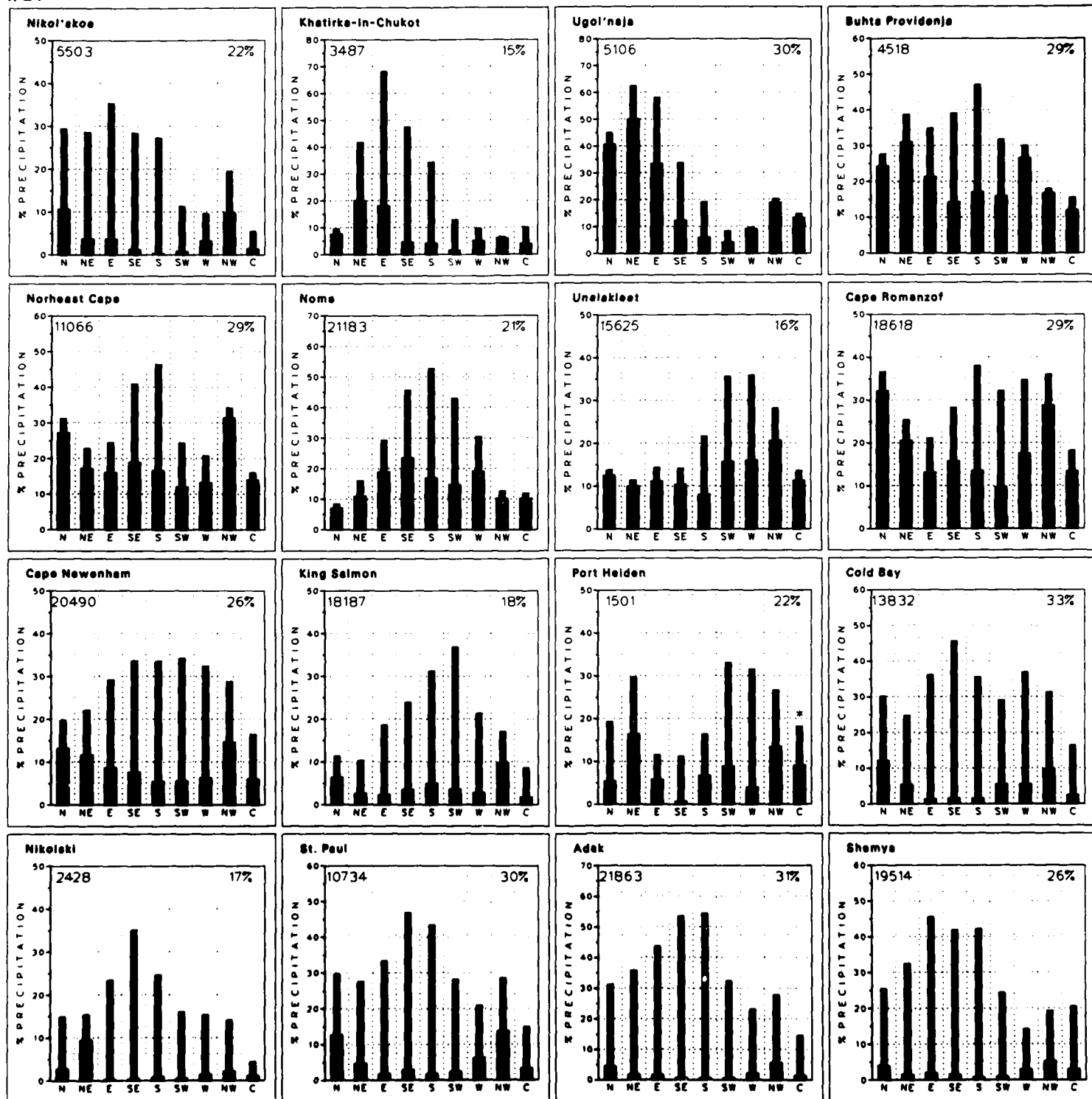
September

1 Precipitation and Wind Direction



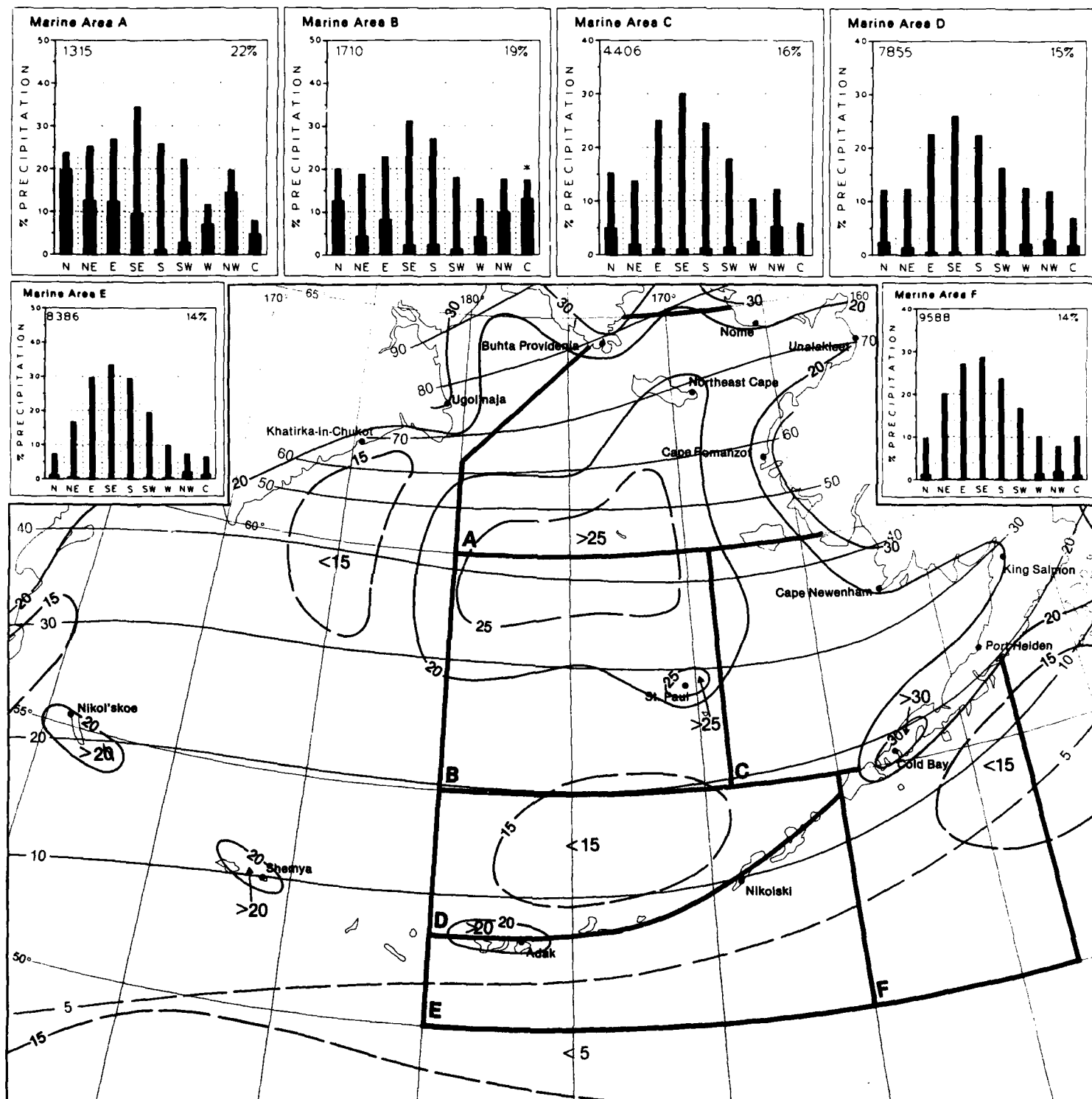
1 Precipitation

September



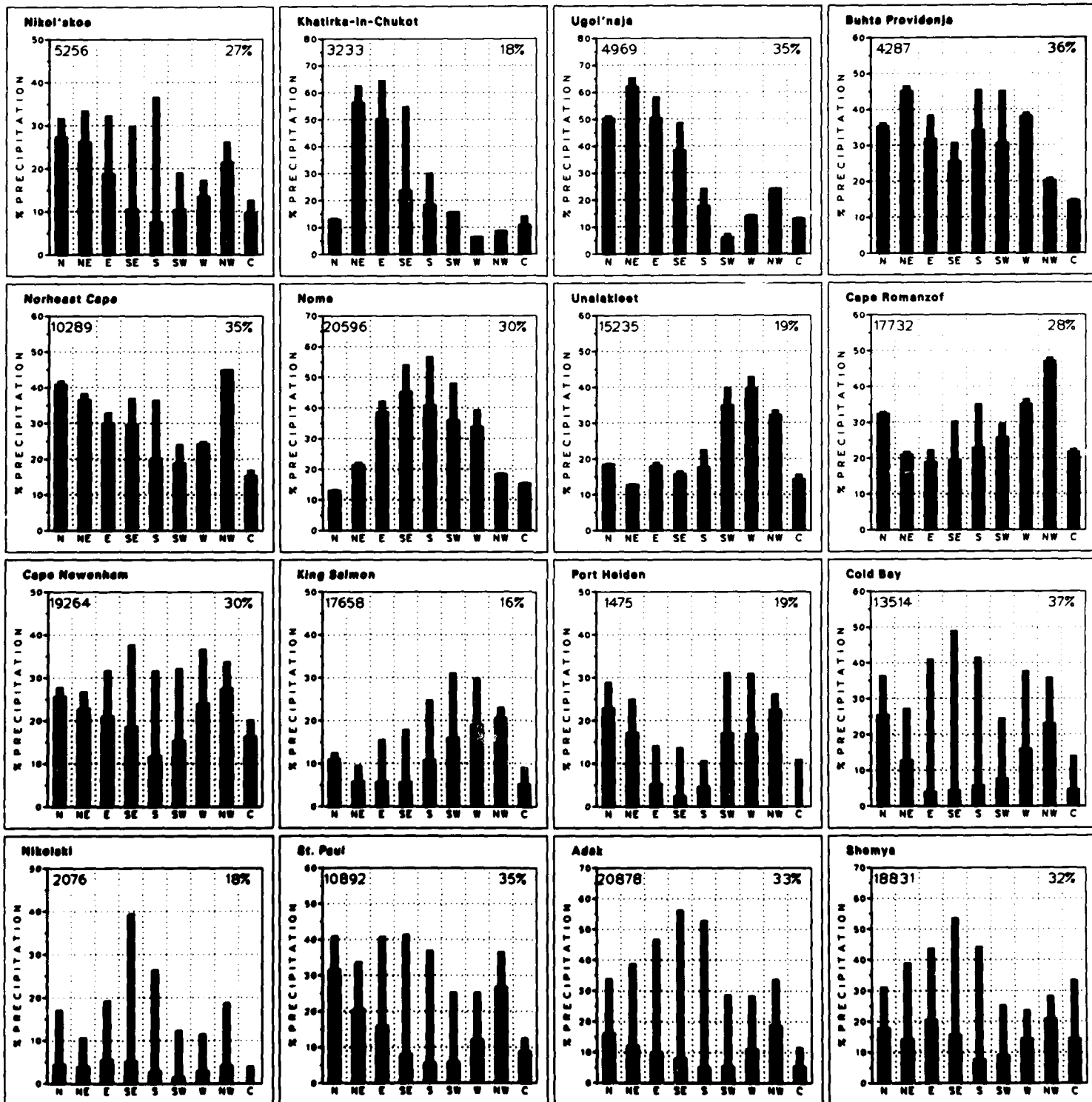
October

1 Precipitation and Wind Direction



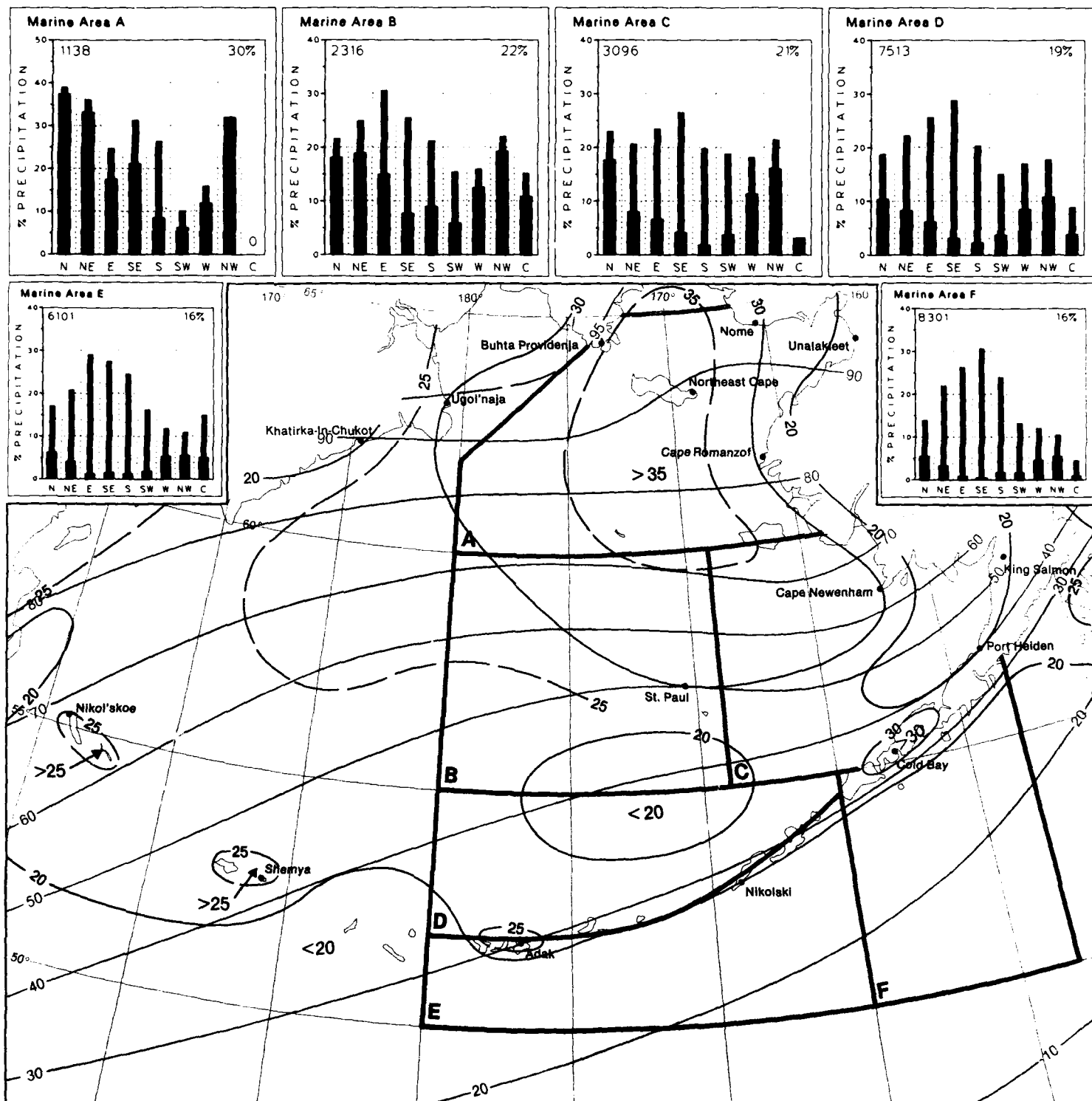
1 Precipitation

October



November

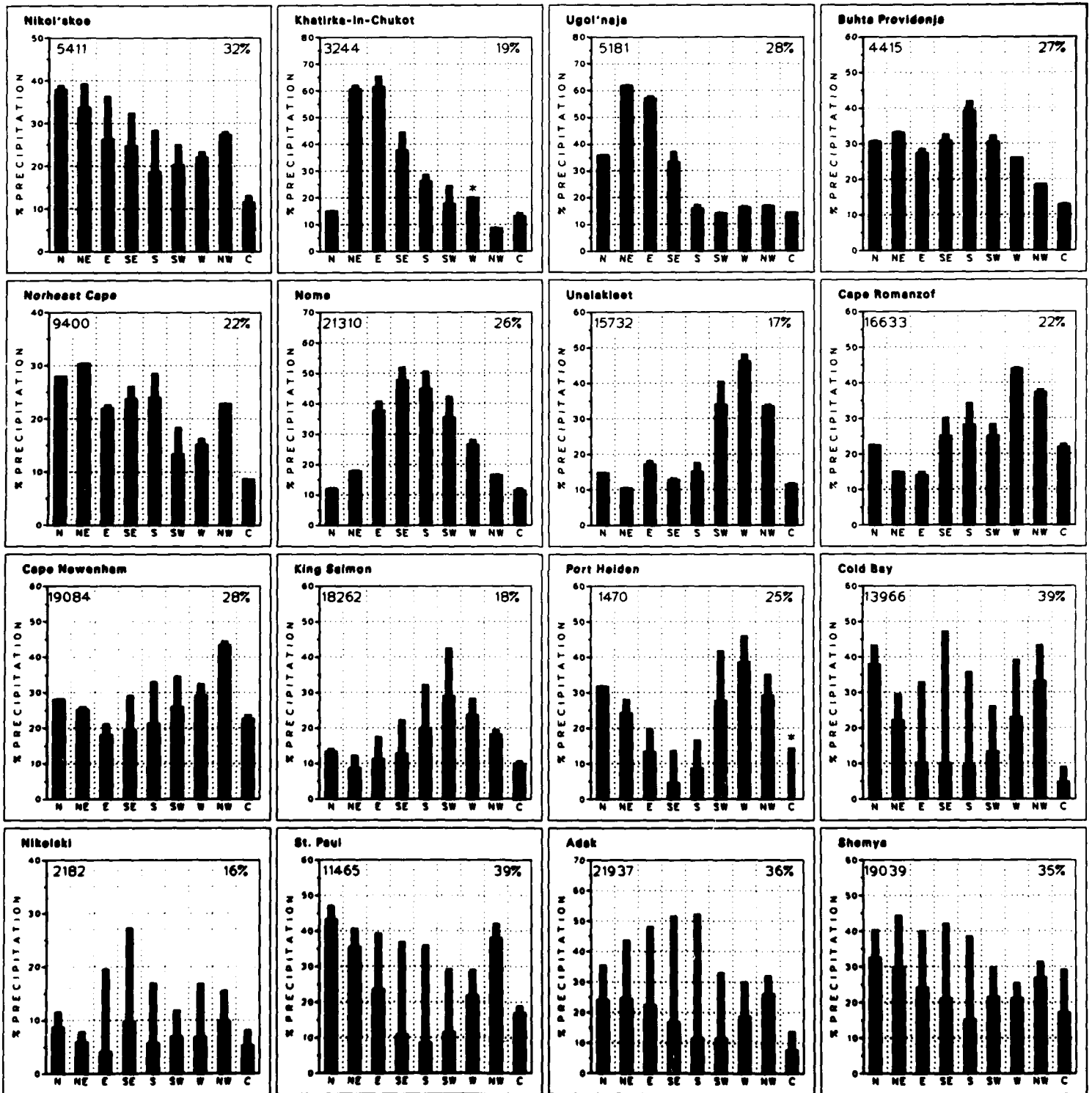
1 Precipitation and Wind Direction



1 Precipitation

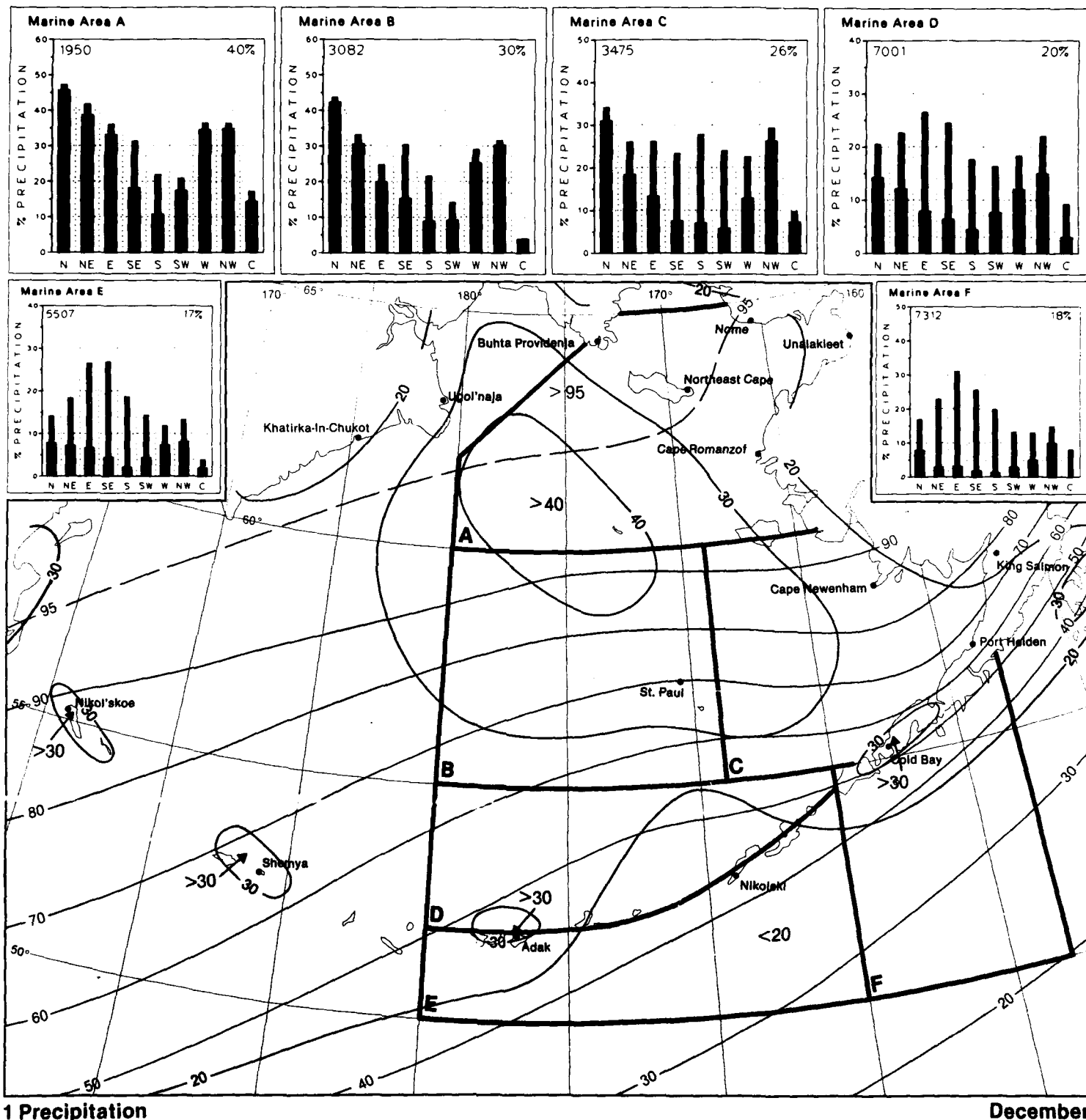
November





December

1 Precipitation and Wind Direction



1 Precipitation

December

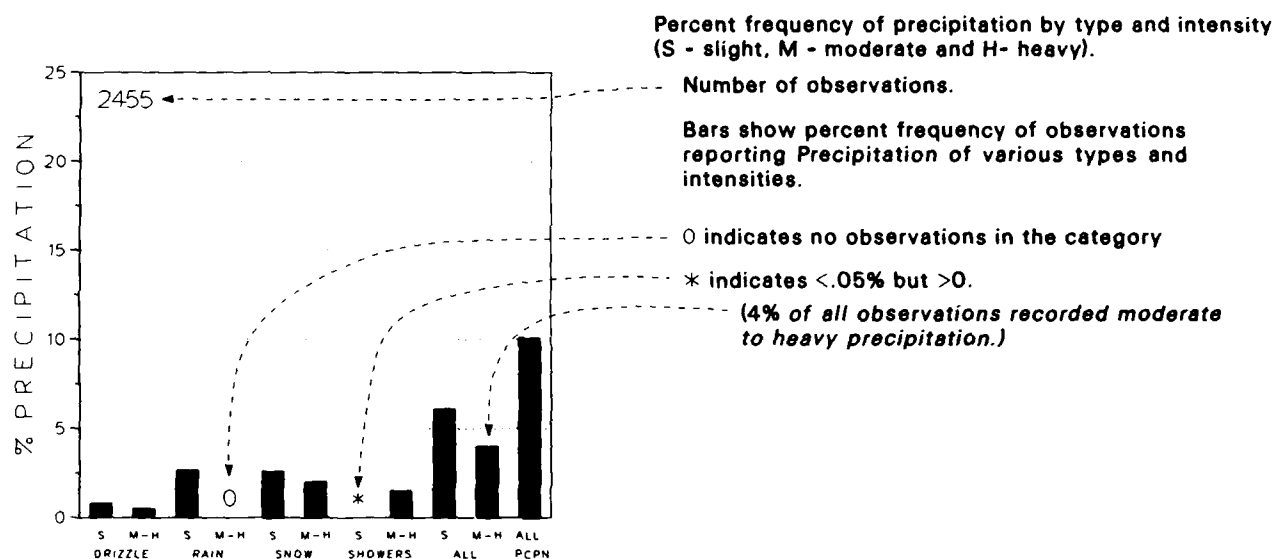
## Map 2. Wind/visibility/cloudiness

**BLACK LINE** – Percent frequency of optimum conditions: Low cloud ceiling (LCC)  $\geq 5000$  feet, (or no LCC), visibility  $\geq 5$  nautical miles and wind 11–21 knots.

**BLUE LINE** – Percent frequency of poor conditions. Any one of the following constitutes poor conditions: LCC  $< 300$  feet, visibility  $< 1$  nautical mile or wind  $< 6$  or  $\geq 34$  knots.

Albers Equal-Area Conic Projection

## Graphs: Precipitation types

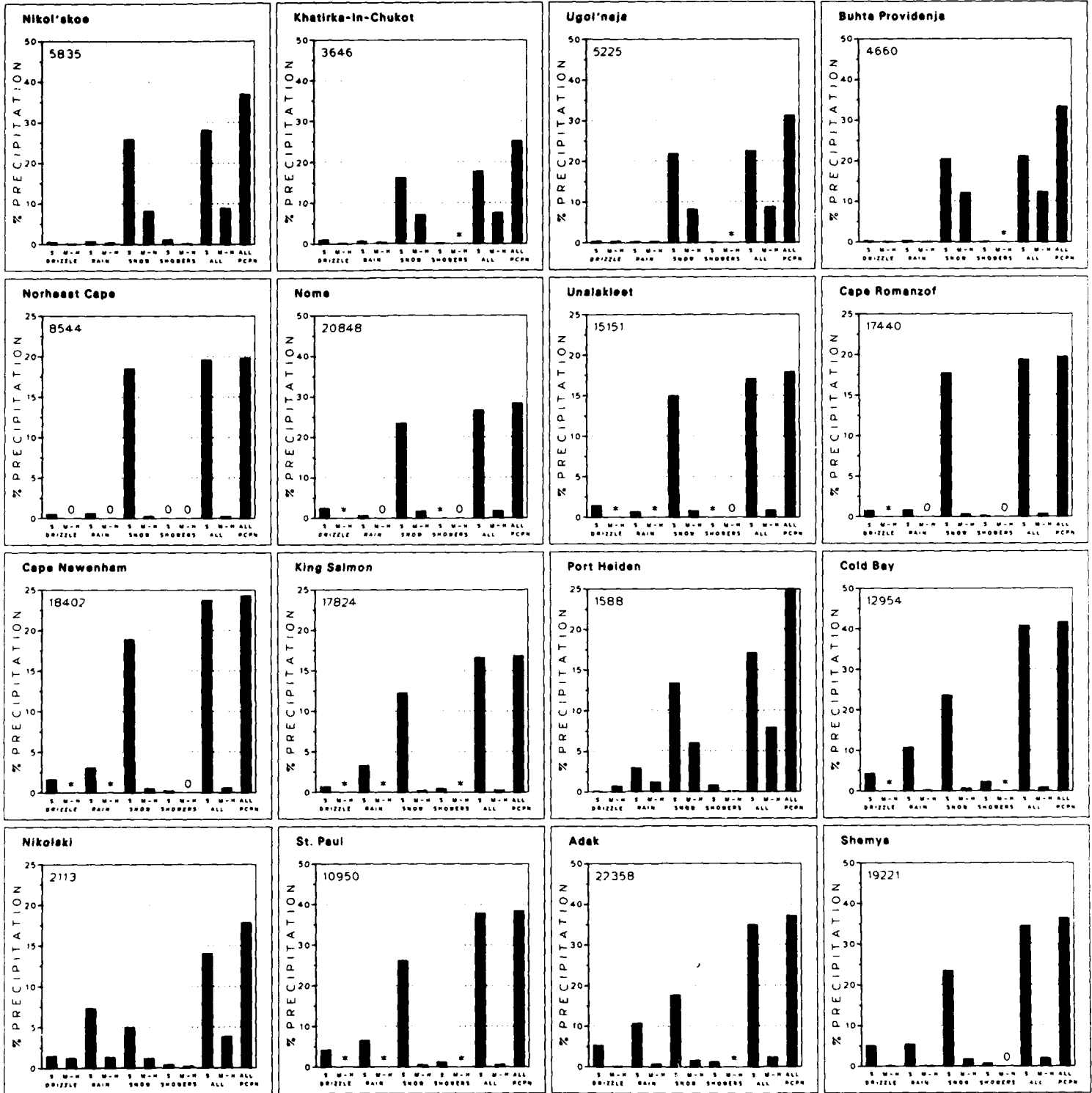


Present weather elements that can be reported in an observation are thunderstorms, lightning, waterspouts, squalls, fog, haze, smoke, dust, and all forms of precipitation. Most present weather codes (ww = 00-99, see table) apply to phenomena occurring at the time of observation, but a few refer to phenomena occurring in the past hour. The highest applicable numerical ww code figure is recorded (except that code 17 has preference over 20 to 49, inclusive). Precipitation includes all forms of water particles, whether liquid or solid, that fall to the earth's surface—rain, drizzle, snow, snow pellets, snow grains, ice crystals, ice pellets, and hail. Each form is classified by its character (continuous, intermittent, showery, or combination), intensity (slight, moderate, or heavy), and type (liquid, freezing, or frozen). In this study, frozen precipitation is defined as any precipitation that reaches the ground in frozen form; it does not include liquid that freezes upon impact with the ground or exposed objects. Refer to the text in Set 1 for additional information on precipitation.

## PRESENT WEATHER (WMO Code, 1982)

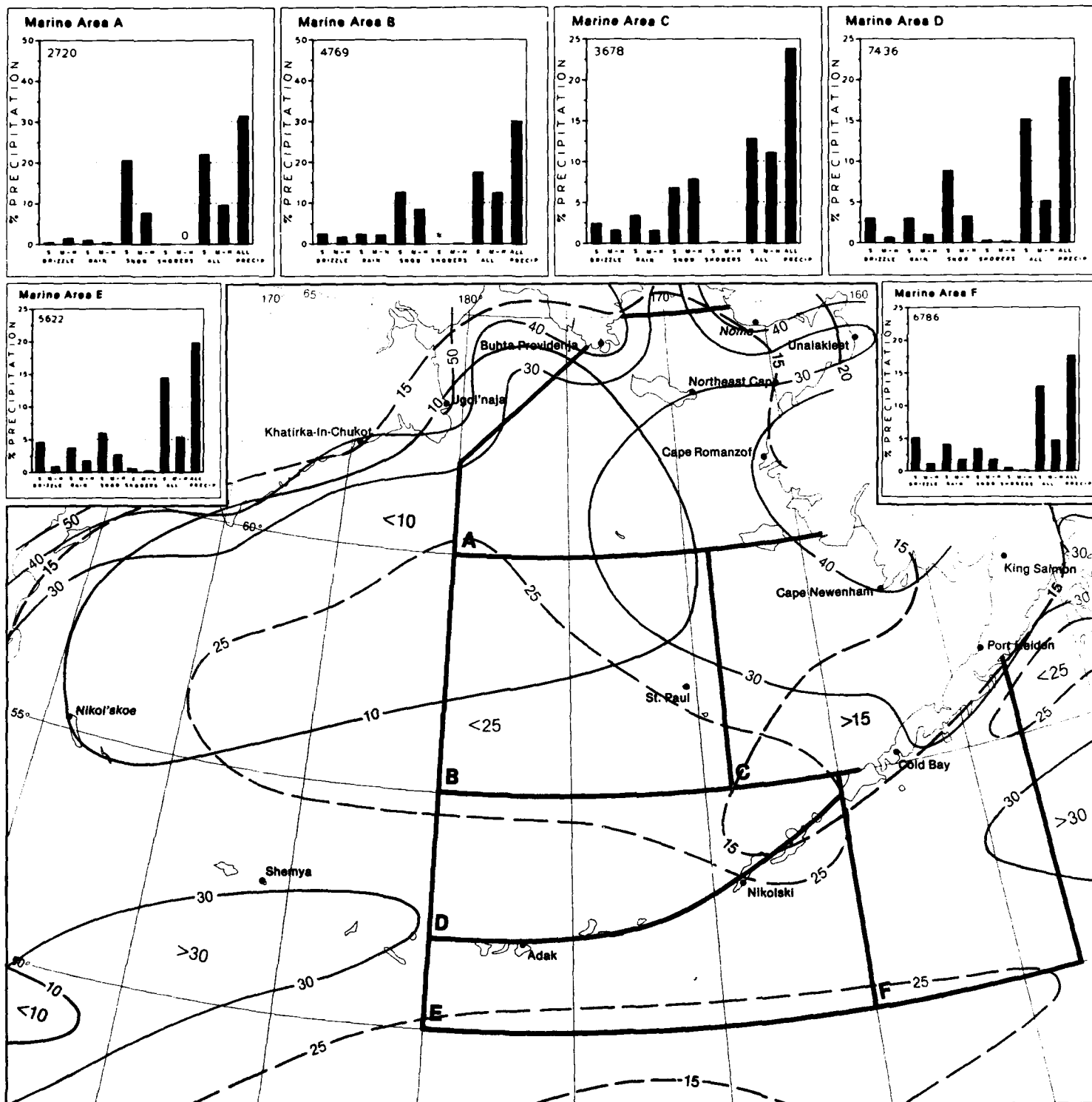
The present weather (ww) code is arranged in priority order. Reading down the list, select the first applicable (most severe) weather condition that you observe and enter the code number for ww.

50-99 PRECIPITATION AT SHIP AT TIME OF OBSERVATION		Intermittent		Continuous		32 Duststorm or sandstorm, increasing		35	
		74 Heavy snow in flakes		75		31 Duststorm or sandstorm, unchanging		34	
		72 Moderate snow in flakes		73		30 Duststorm or sandstorm, decreasing		33	
		70 Slight snow in flakes		71					
95-99 THUNDERSTORM AT TIME OF OBSERVATION		60-69 RAIN (NOT FALLING AS SHOWERS)		20-29 PHENOMENA IN PAST HOUR BUT NOT AT TIME OF OBSERVATION					
		Slight		Moderate or Heavy					
99 Heavy thunderstorm with hail*		68 Rain or drizzle with snow		69		29 Thunderstorm, with or without precipitation			
98 Thunderstorm with duststorm or sandstorm		66 Freezing rain		67		28 Fog (in past hour but not at time of obs.)			
97 Heavy thunderstorm with rain and/or snow, but no hail*						27 Shower(s) of hail*, or of hail*, and rain mixed			
96 Slight or moderate thunderstorm with hail*		Intermittent		Continuous		26 Shower(s) of snow, or of rain and snow mixed			
95 Slight or moderate thunderstorm with rain or snow, but no hail*		64 Heavy rain		65		25 Shower(s) of rain			
		62 Moderate rain		63		24 Freezing drizzle or freezing rain			
		60 Slight rain		61		23 Rain and snow mixed, or ice pellets			
*Includes hail, ice pellets, or snow pellets						22 Snow			
						21 Rain (not freezing)			
						20 Drizzle (not freezing) or snow grains		Not falling as showers	
91-94 THUNDERSTORM DURING THE PAST HOUR BUT NOT AT THE TIME OF OBSERVATION		50-59 DRIZZLE							
		Slight		Moderate or heavy					
		58 Drizzle and rain mixed		59		*Includes hail, ice pellets or snow pellets			
		56 Freezing drizzle		57					
		Intermittent		Continuous					
94 Moderate or heavy snow, or rain and snow mixed, or hail*		54 Heavy drizzle		55		18-19 SQUALLS, FUNNEL CLOUDS			
93 Slight snow, or rain and snow mixed, or hail*		52 Moderate drizzle		53		19 Funnel cloud(s) seen in past hour or at time of obs			
92 Moderate or heavy rain		50 Slight drizzle		51		18 Squalls (no precip.) in past hour or at time of obs			
91 Slight rain									
*Includes hail, ice pellets, or snow pellets		00-49 NO PRECIPITATION AT SHIP AT TIME OF OBSERVATION				13-16 PHENOMENA WITHIN SIGHT BUT NOT AT SHIP			
		40-49 FOG AT TIME OF OBSERVATION				16 Precip. within 3 naut. mi.—reaching surface			
		17 Thunder at time of observation, no precipitation at ship				15 Precip. beyond 3 naut. mi.—reaching surface			
						14 Precipitation in sight, not reaching surface			
						13 Lightning visible, no thunder heard			
85-90 SOLID PRECIPITATION IN SHOWERS						10-12 MIST AND SHALLOW FOG		Fog not deeper than 10 m (33 feet)	
Slight		Moderate or Heavy				12 Shallow fog—more or less continuous			
89 Shower or hail*, no thunder		90				11 Shallow fog in patches			
87 Shower of snow pellets or ice pellets†		88				10 Mist (Visibility ½ nautical mile or more)			
85 Shower of snow		86							
†With or without rain, or rain and snow mixed									
*Include hail, ice pellets, or snow pellets									
80-84 RAIN SHOWERS						04-09 HAZE, DUST, SAND, OR SMOKE			
84 Shower of rain and snow mixed, moderate or heavy		Sky visible		Sky invisible		09 Duststorm or sandstorm within sight			
83 Shower of rain and snow mixed, slight		48 Fog, depositing rim		49		08 Dust whirls in past hour (NOT FOR MARINE USE)			
82 Violent rain shower		46 Fog, has begun or thickened in past hour		47		07 Blowing spray at ship			
81 Moderate or heavy rain shower		44 Fog, no change in past hour		45		06 Widespread dust suspended in the air			
80 Slight rain shower		42 Fog, has become thinner in past hour		43		05 Dry haze			
		41 Fog in patches				04 Visibility reduced by smoke			
		40 Fog at a distance but not at ship in past hour							
70-79 SOLID PRECIPITATION NOT FALLING AS SHOWERS		30-39 (Not likely to be used in ship reports)				00-03 CHANGE OF SKY DURING PAST HOUR			
79 Ice pellets		Slight or moderate		Heavy		Code figs.			
78 Isolated star-like snow crystals(with or without fog)		38 Blowing snow, high (above eye level)		39		03 Clouds generally forming or developing			
77 Snow grains (with or without fog)		36 Drifting snow, low (below eye level)		37		02 State of the sky on the whole unchanged			
76 Diamond dust (with or without fog)						01 Clouds dissolving or becoming less developed			
						00 Cloud development not observable			



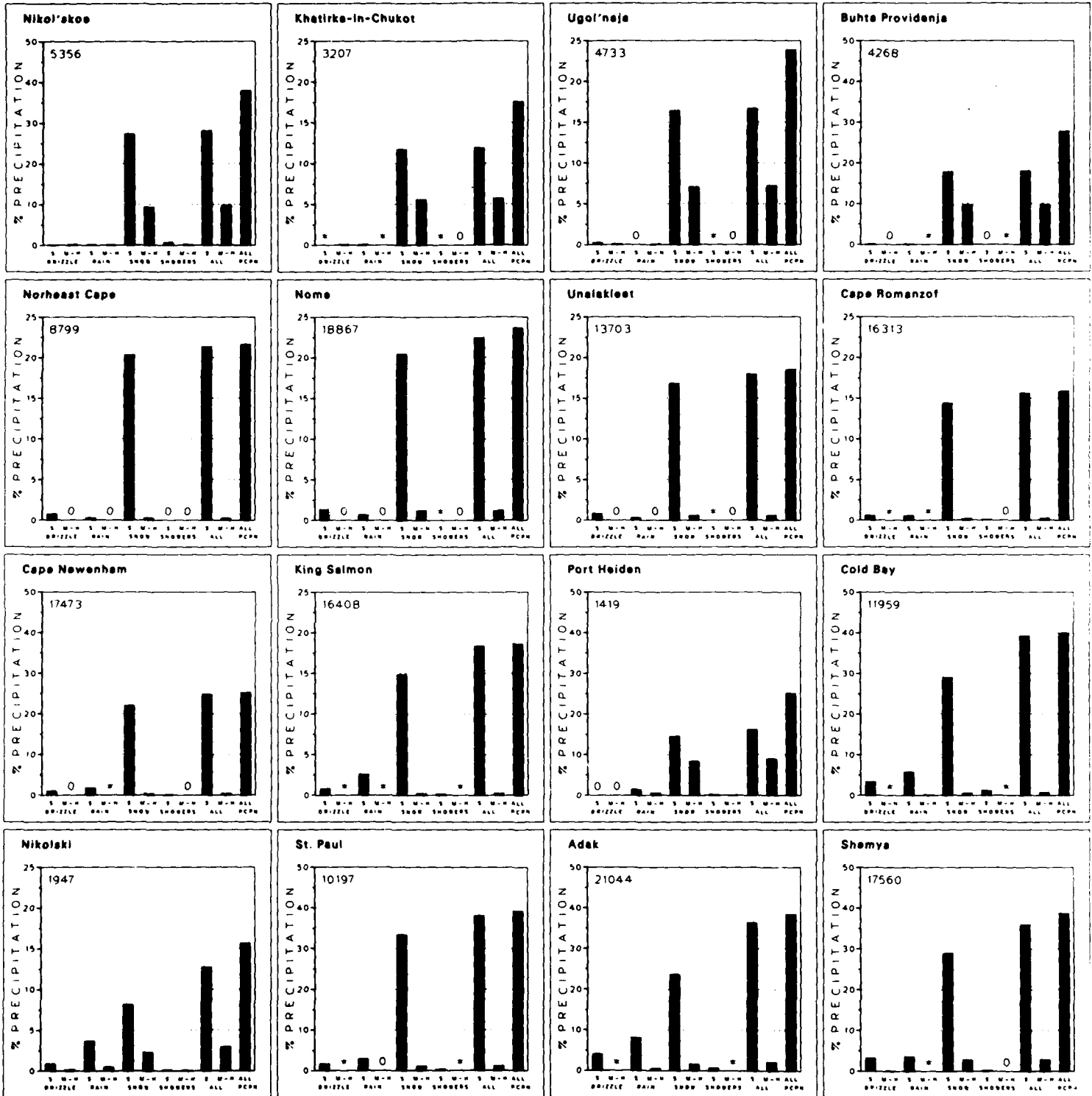
January

2 Precipitation Types



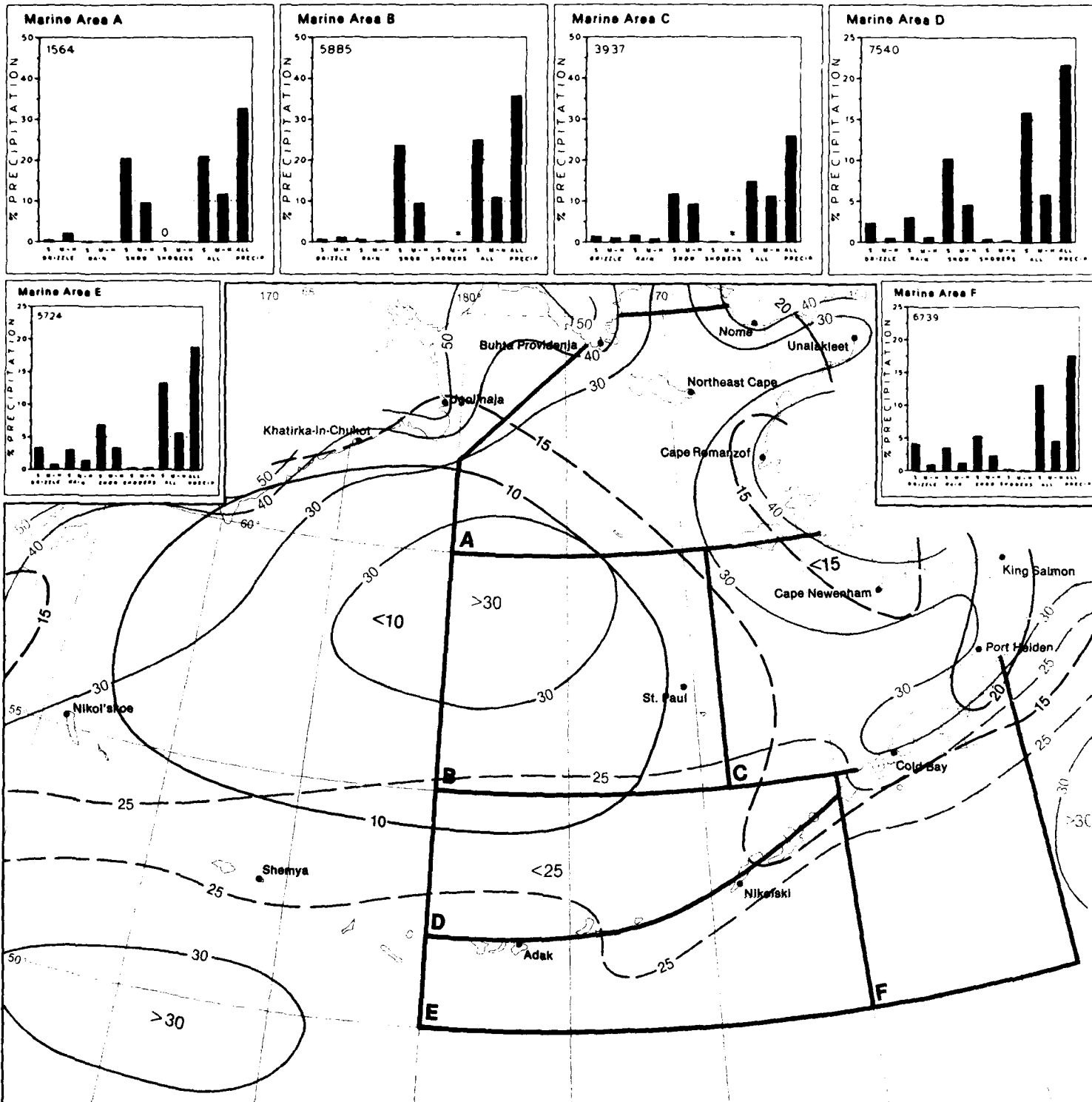
## 2 Wind-Visibility-Cloudiness

## January



February

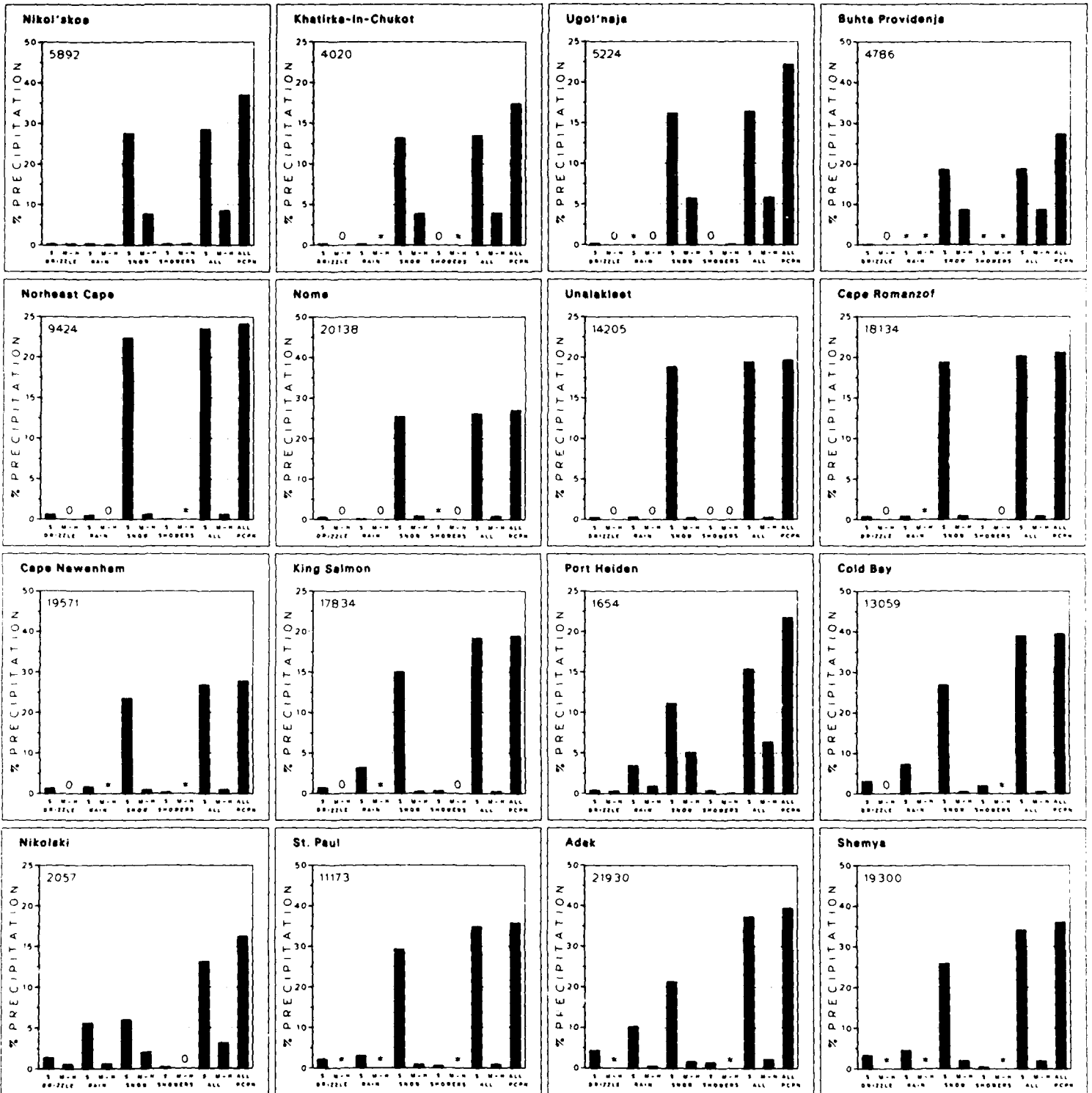
2 Precipitation Types



2 Wind-Visibility-Cloudiness

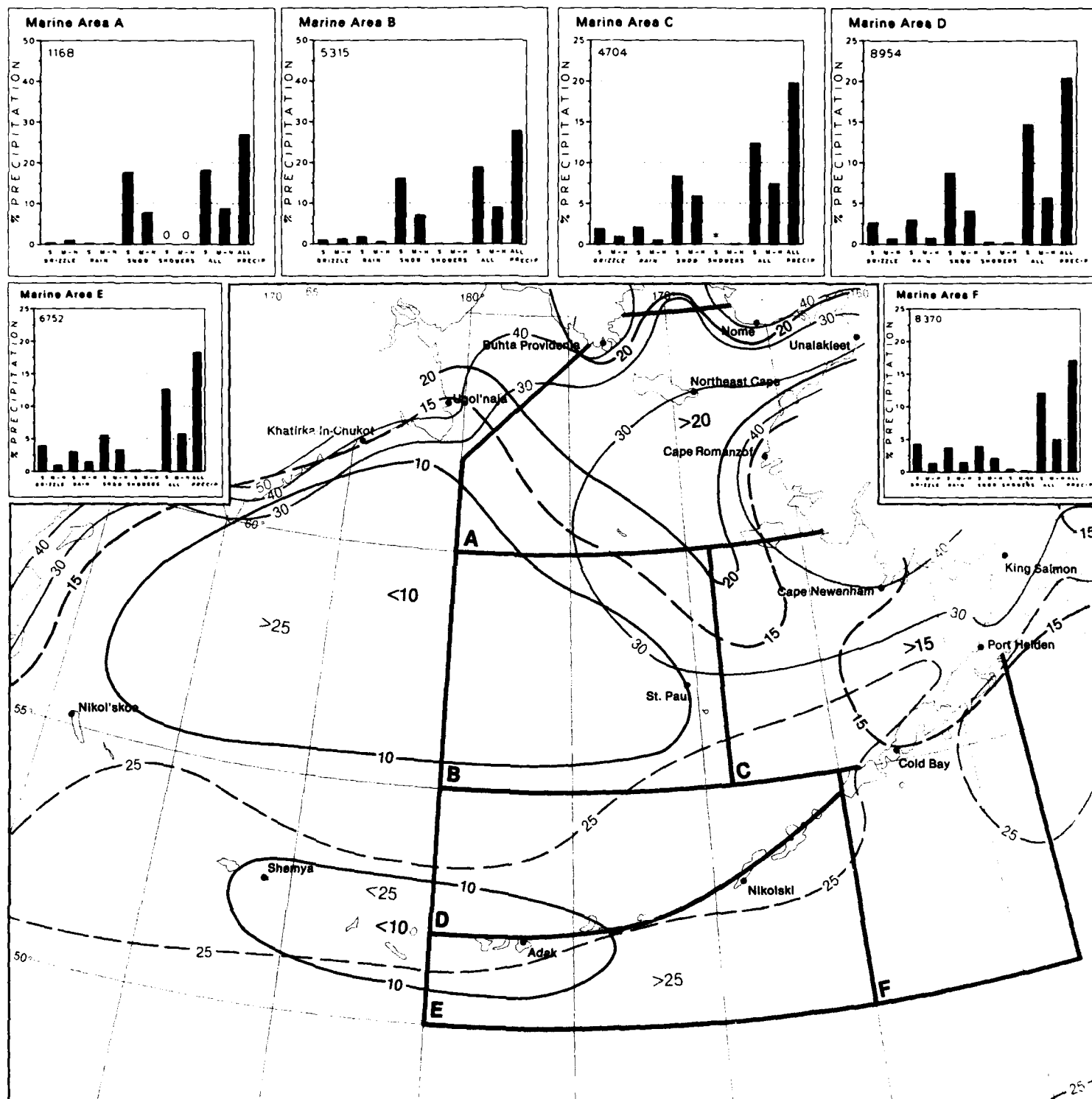
February





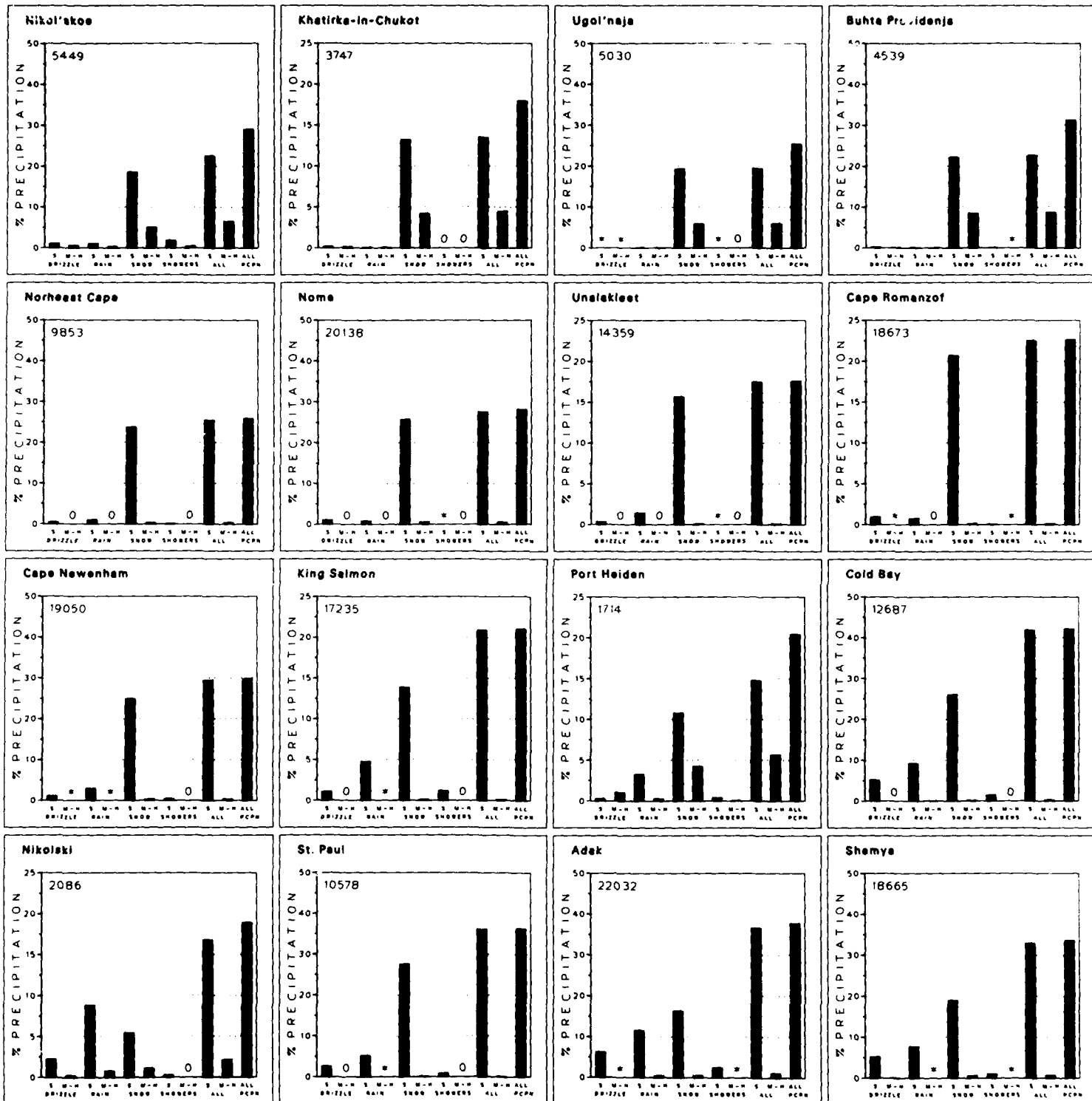
March

2 Precipitation Types



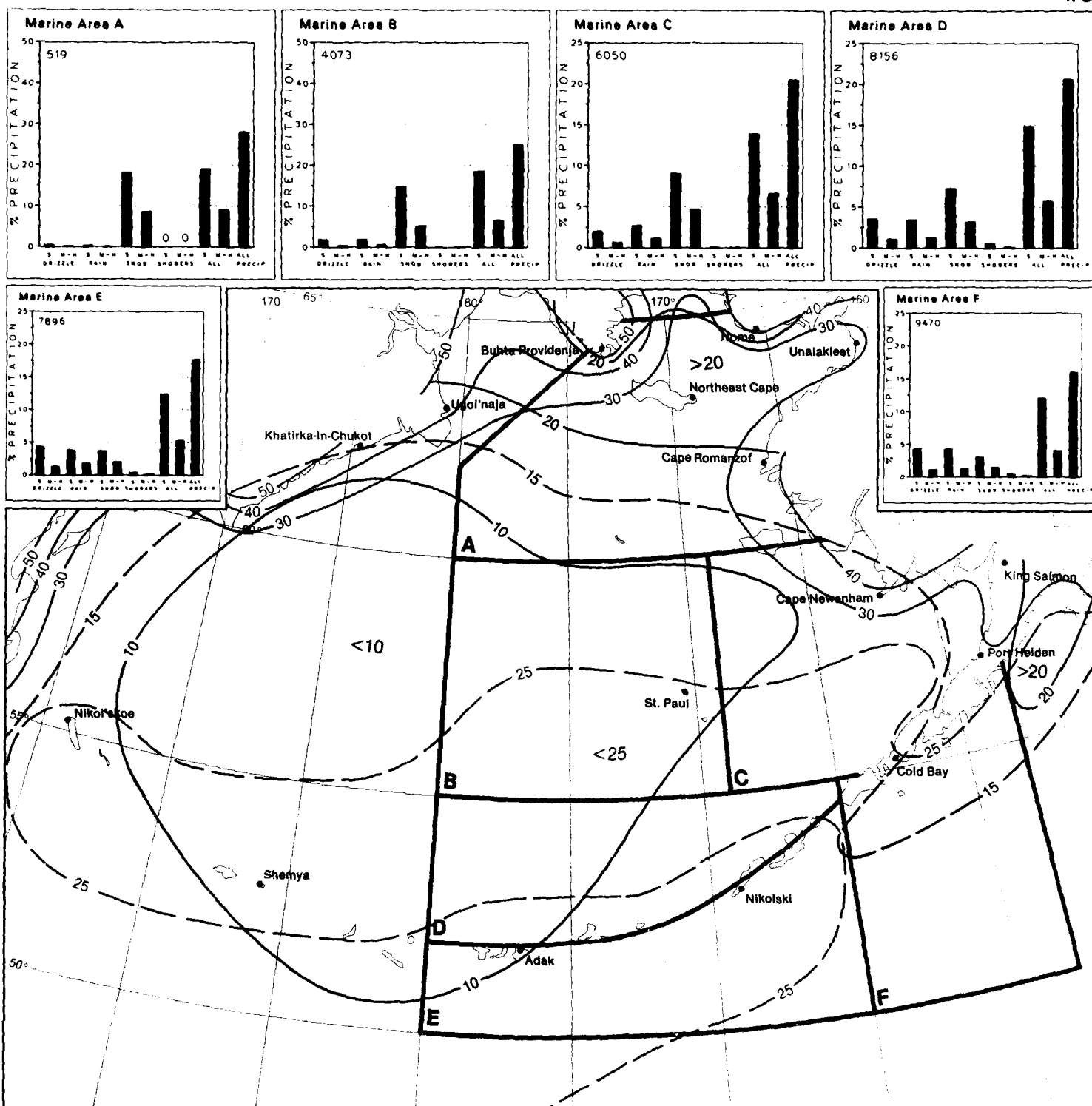
2 Wind-Visibility-Cloudiness

March



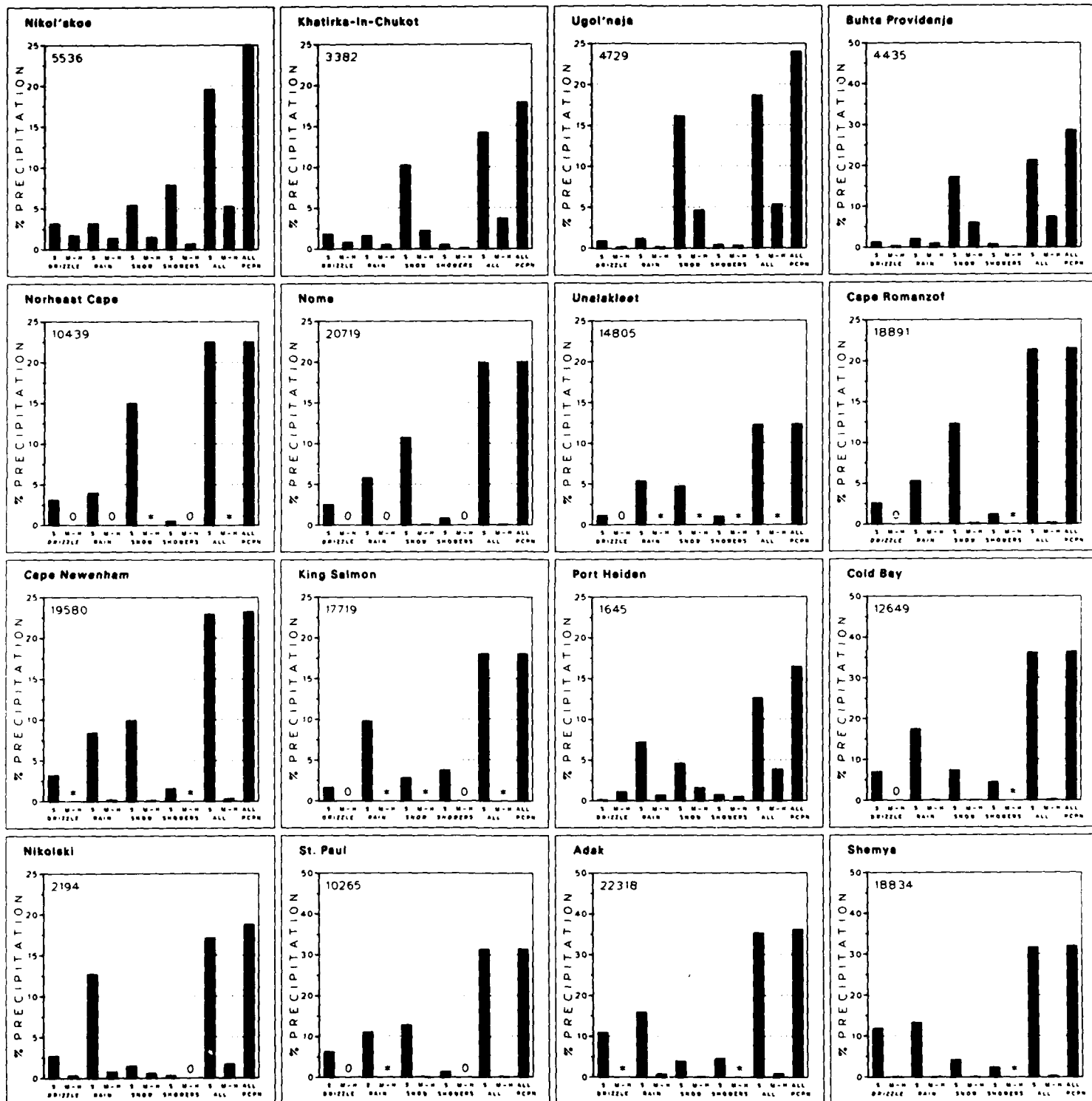
April

2 Precipitation Types



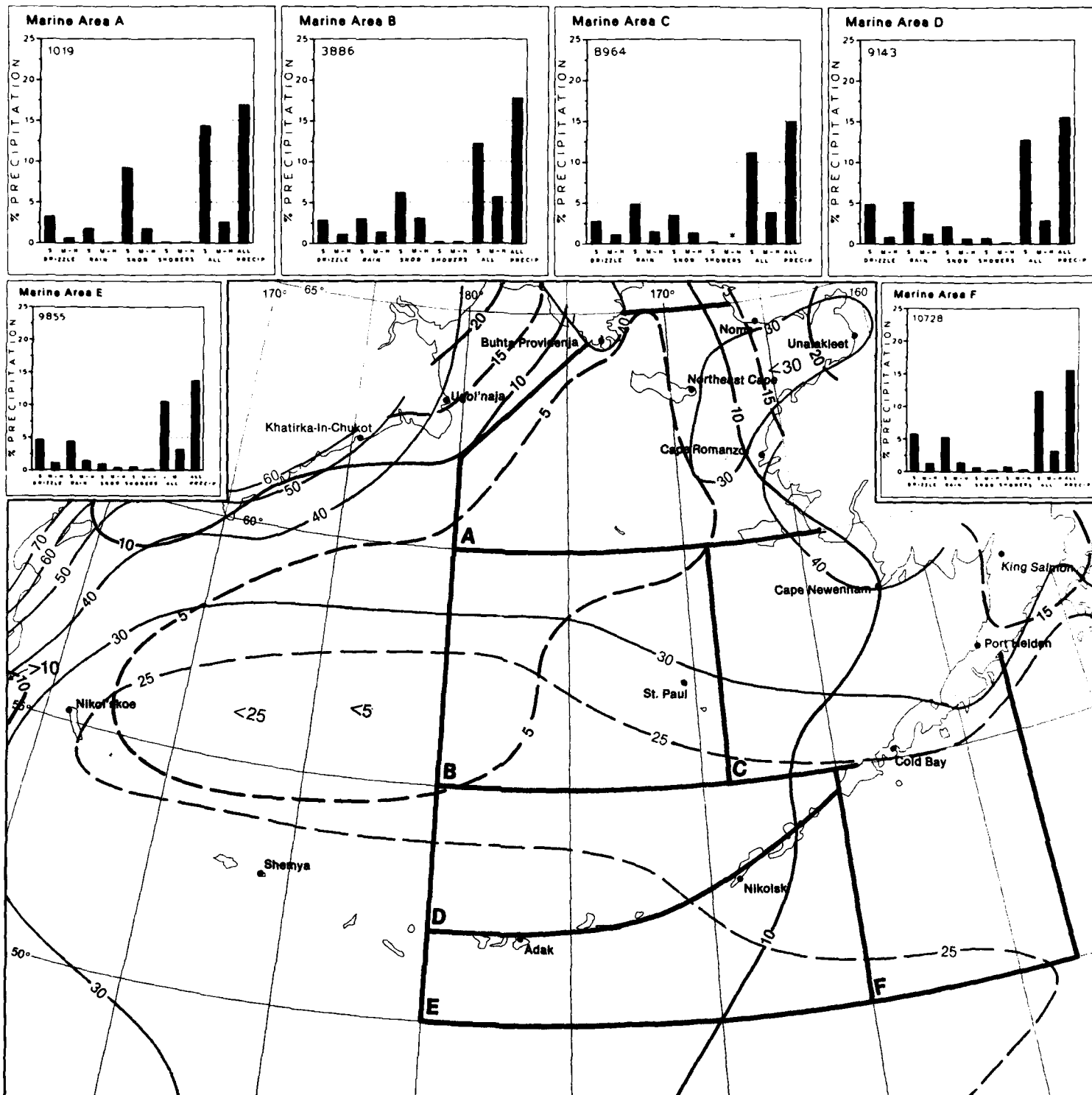
2 Wind-Visibility-Cloudiness

Ap



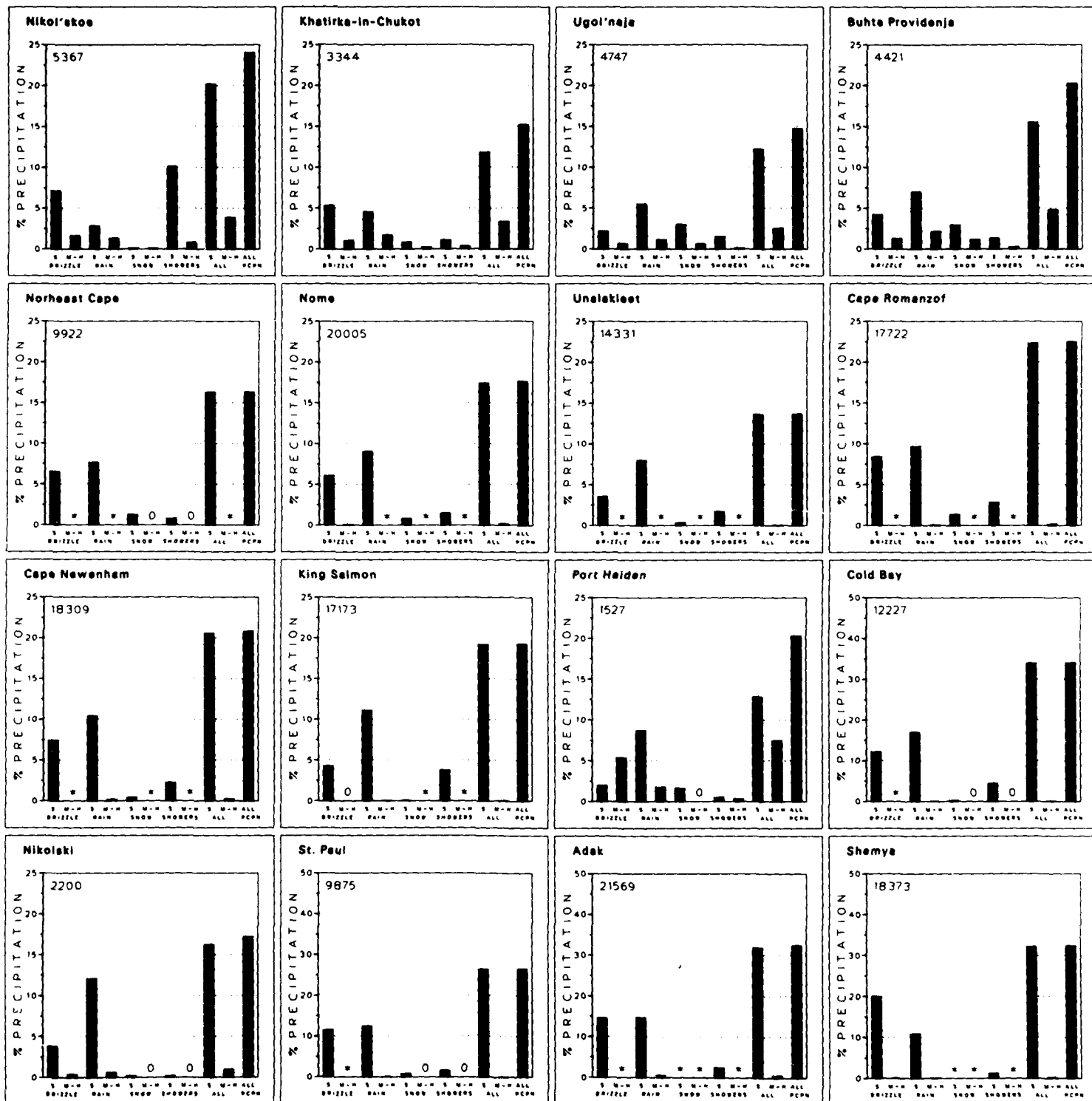
May

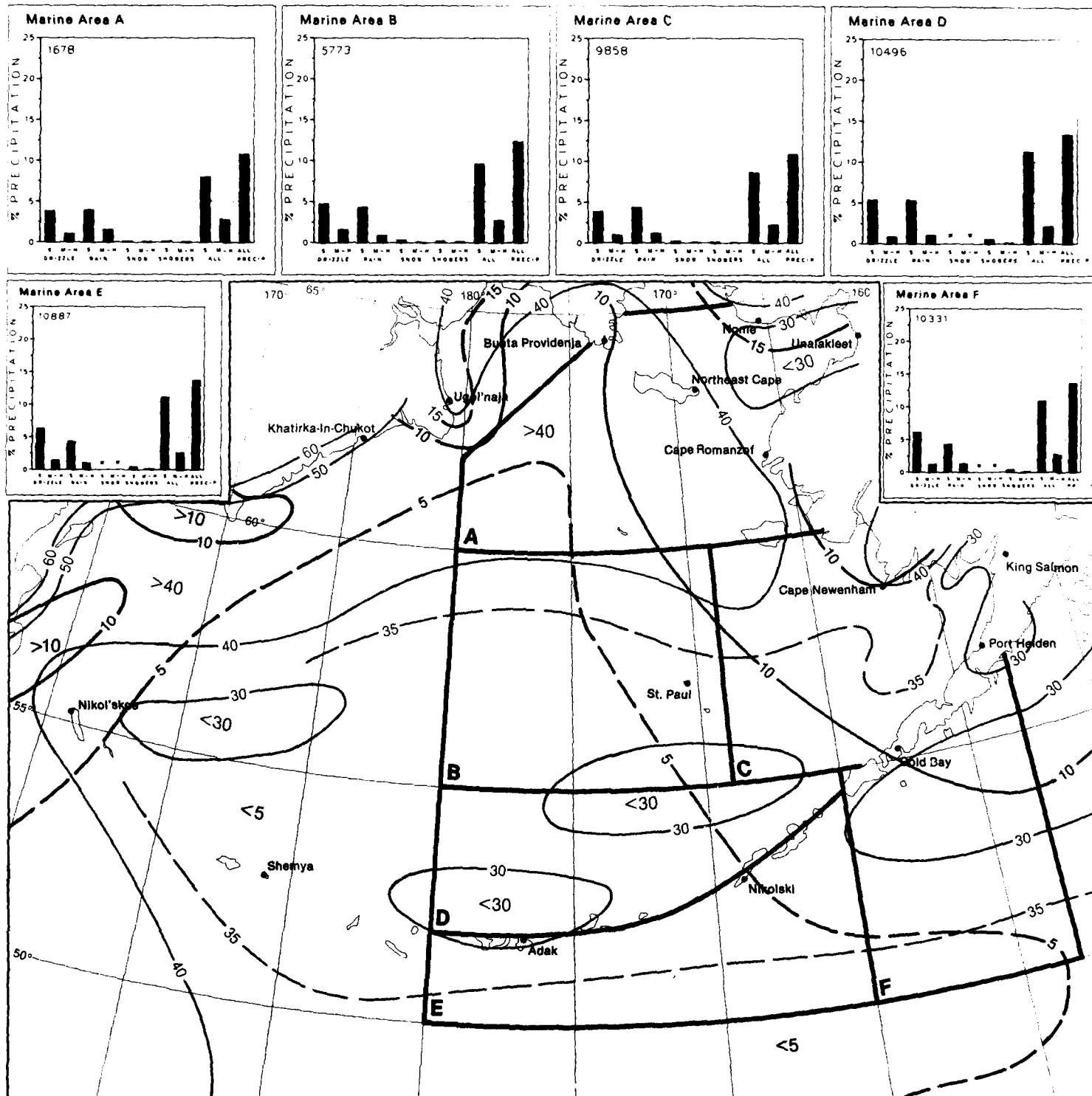
2 Precipitation Types



2 Wind-Visibility-Cloudiness

May

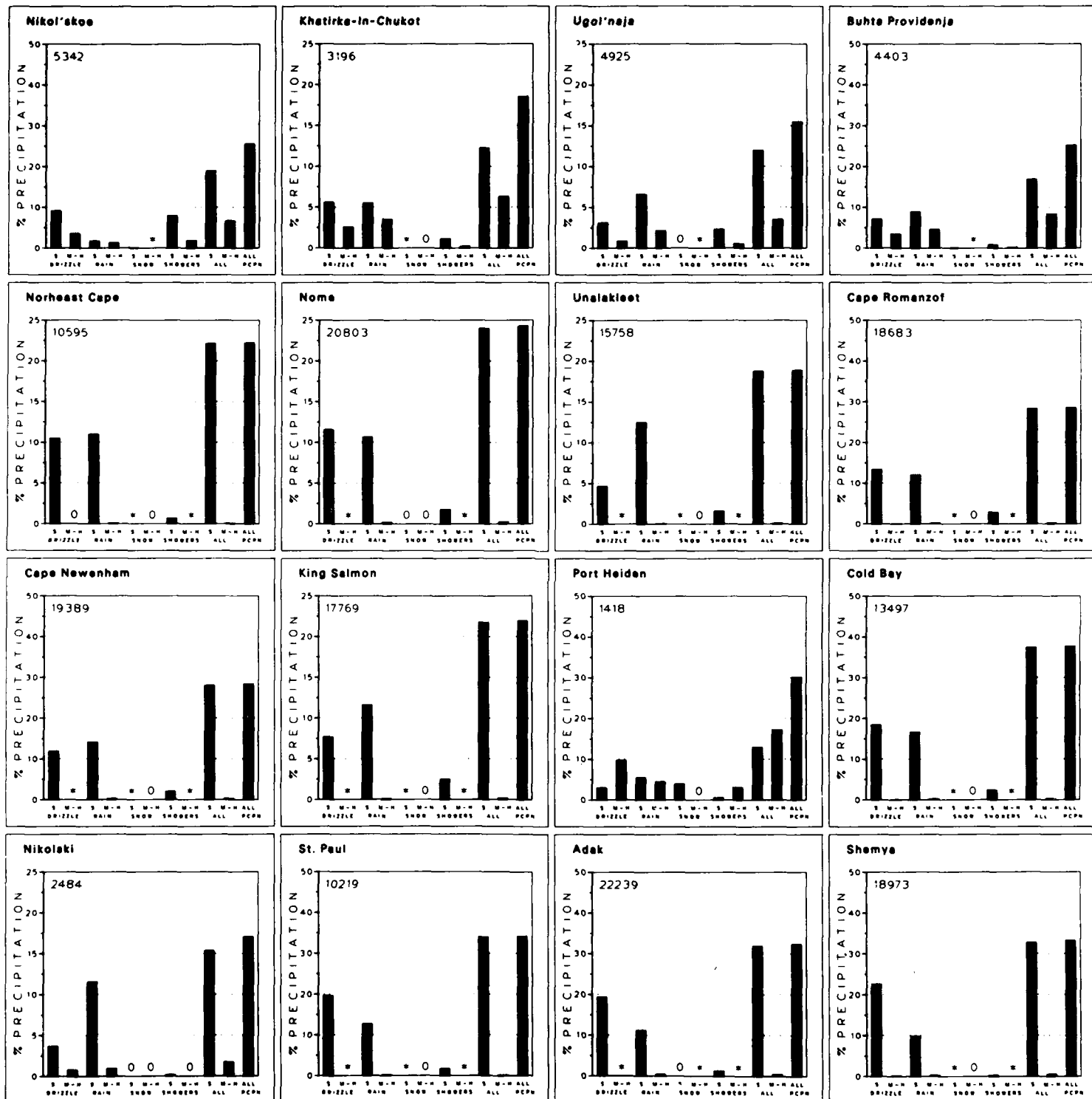




2 Wind-Visibility-Cloudiness

Jun

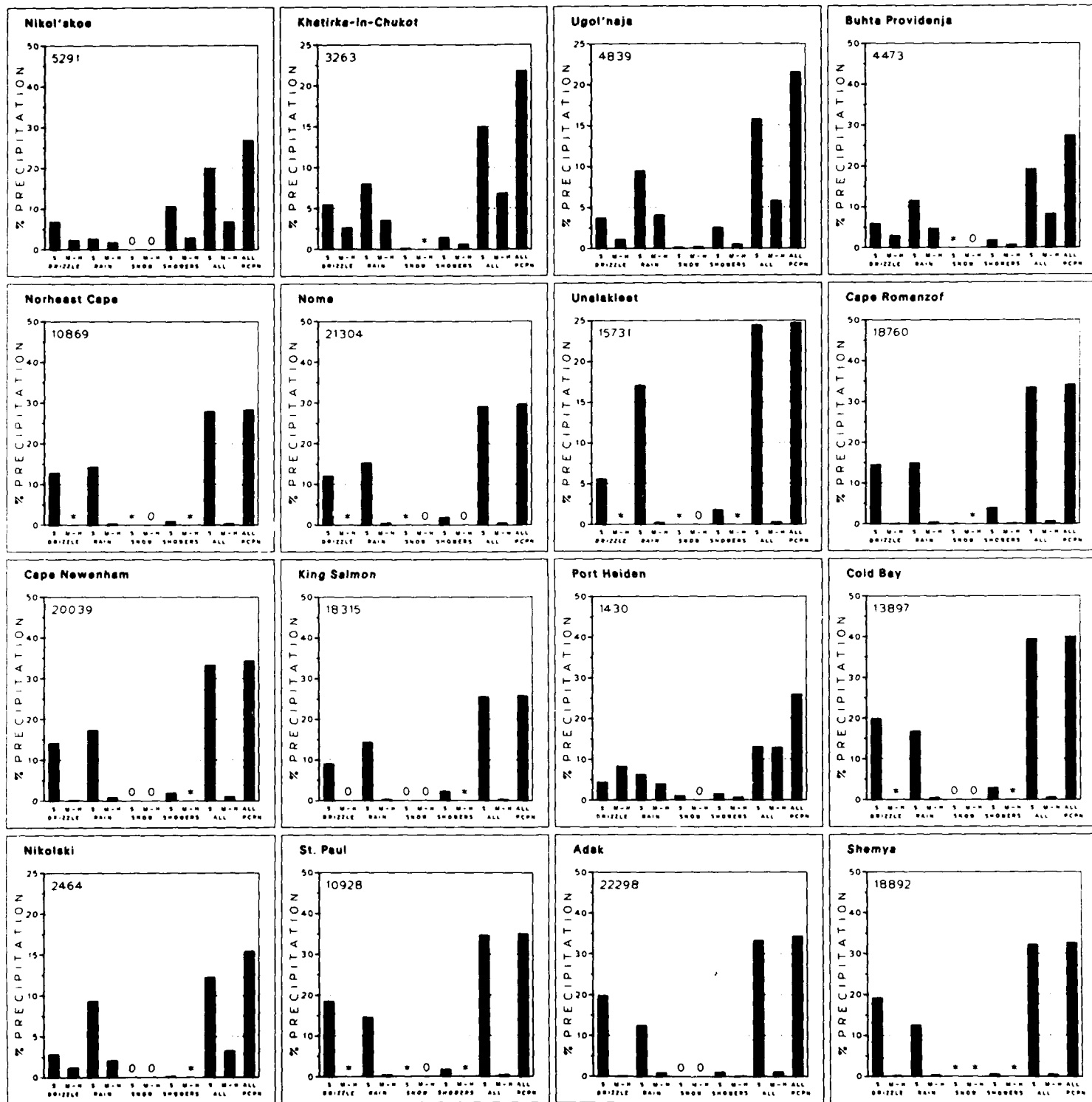




July

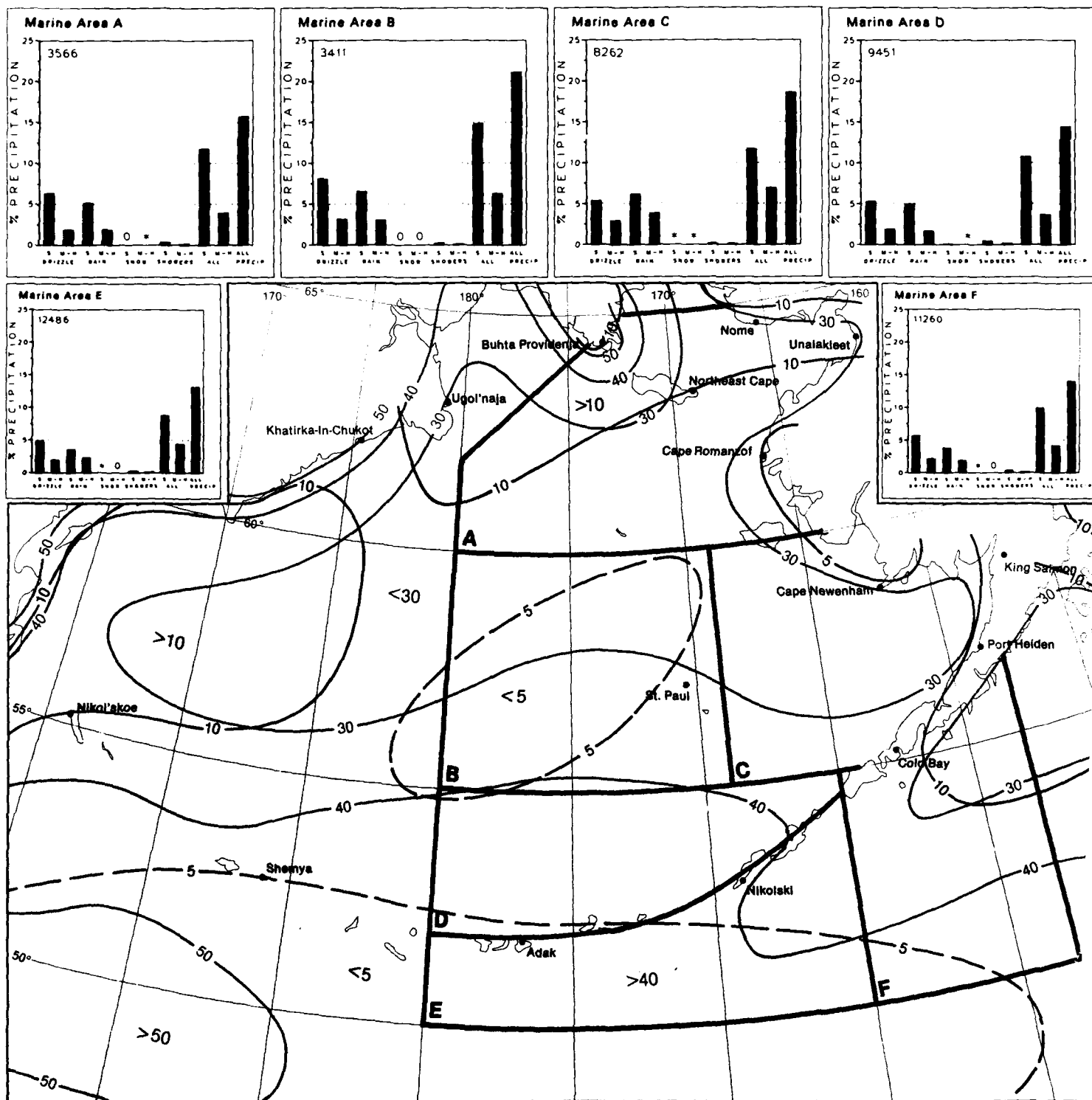
2 Precipitation Types





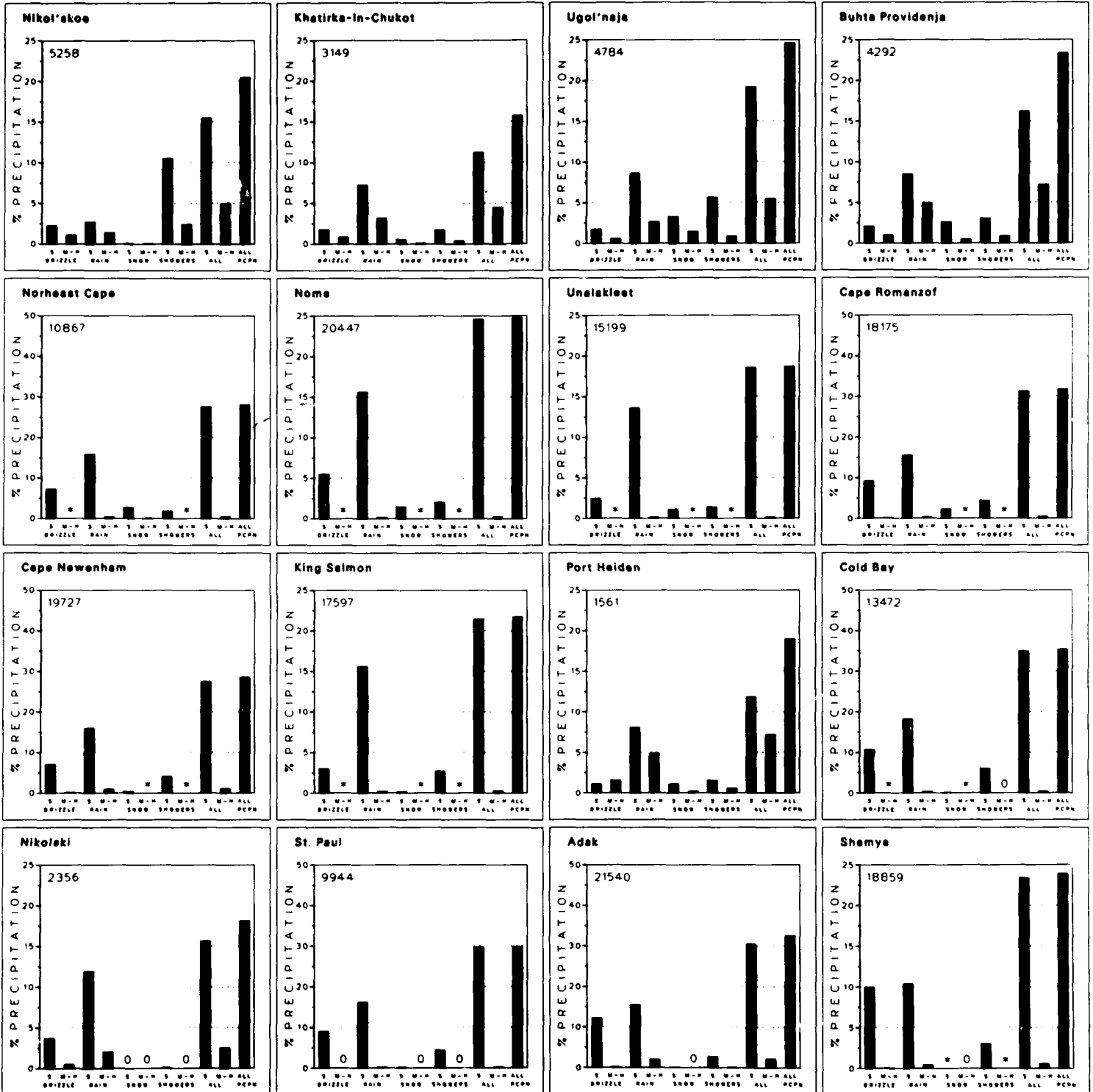
August

2 Precipitation Types



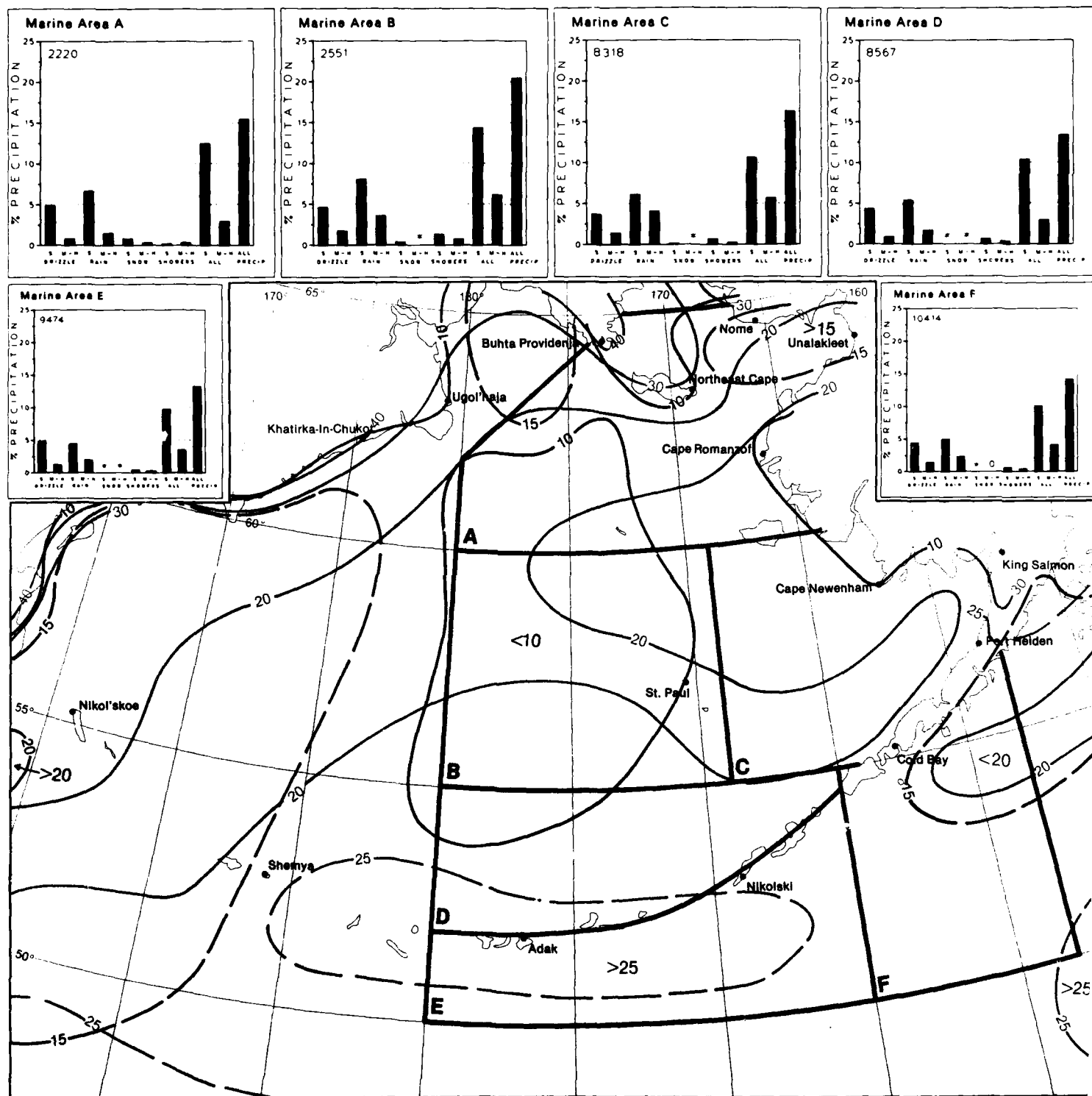
2 Wind-Visibility-Cloudiness

Augu



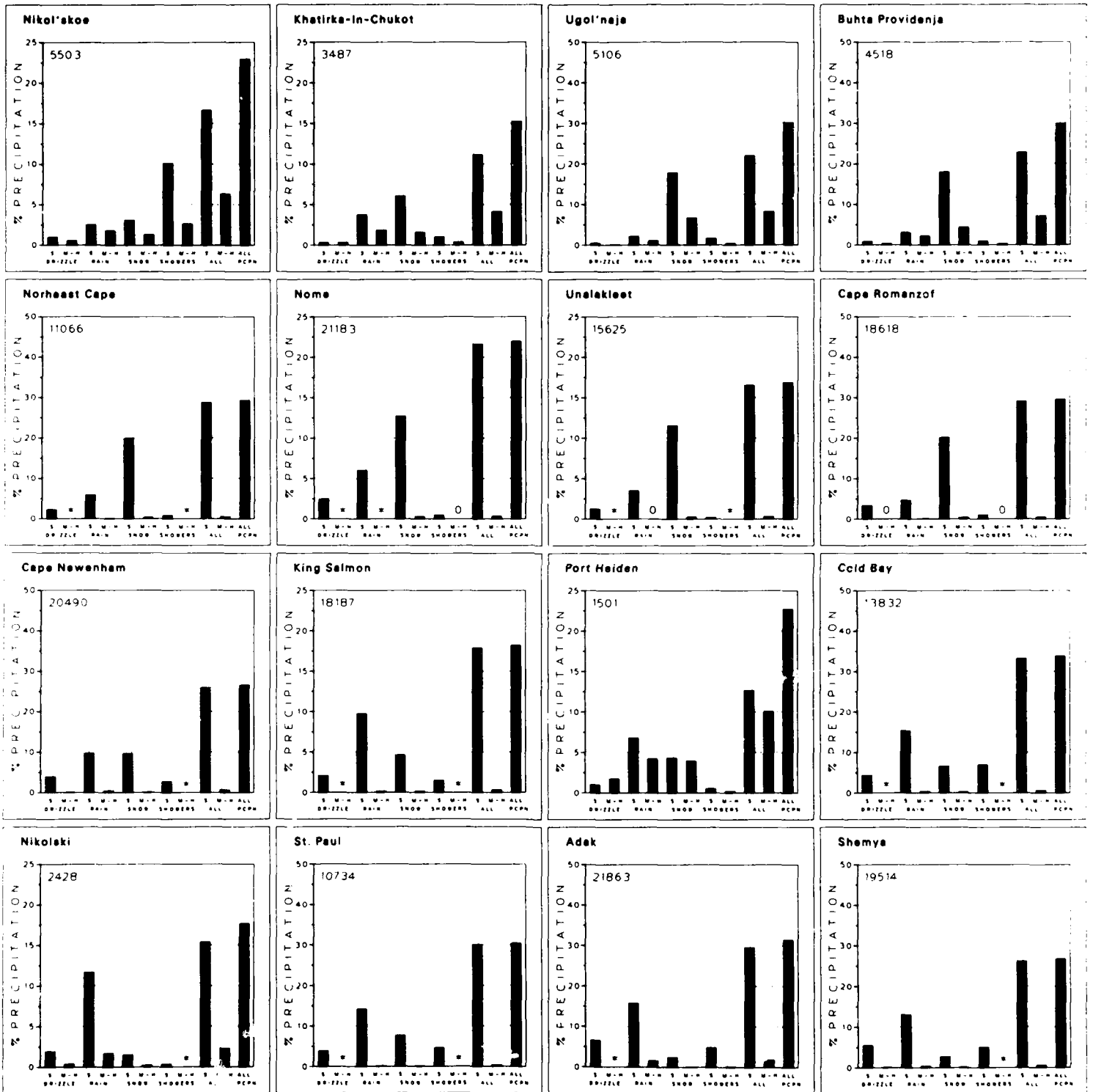
September

2 Precipitation Types



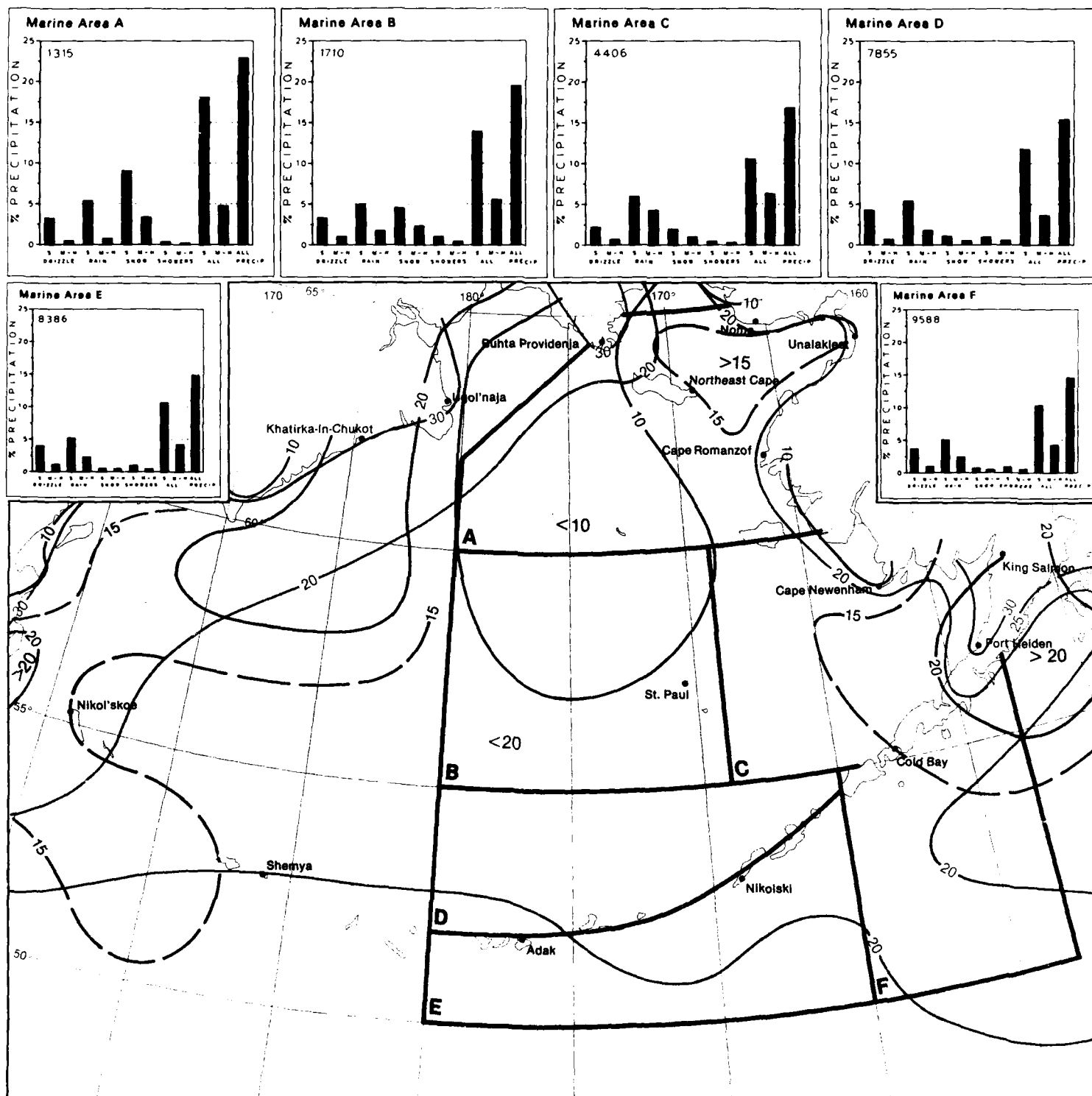
2 Wind-Visibility-Cloudiness

September



October

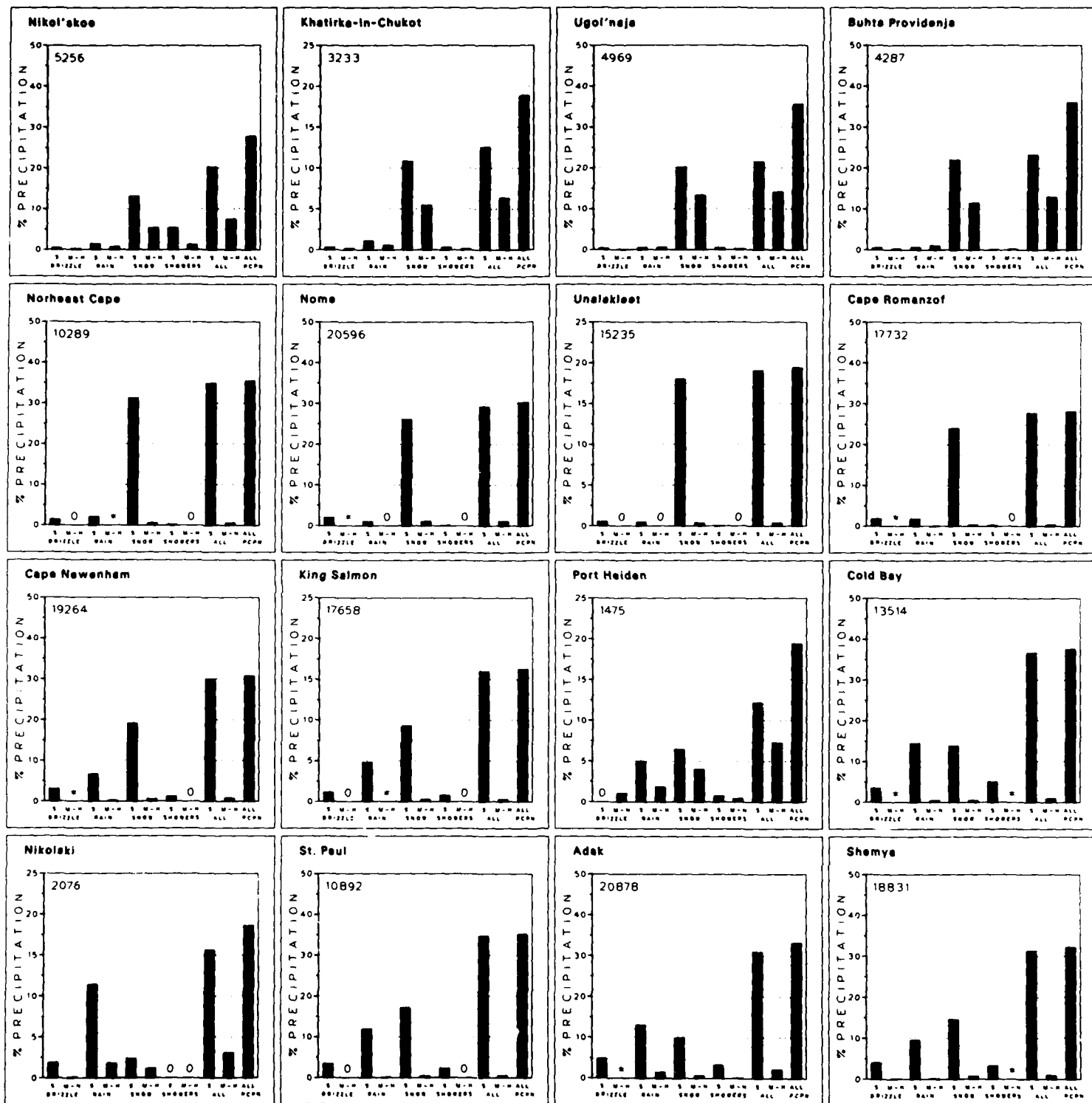
2 Precipitation Types



2 Wind-Visibility-Cloudiness

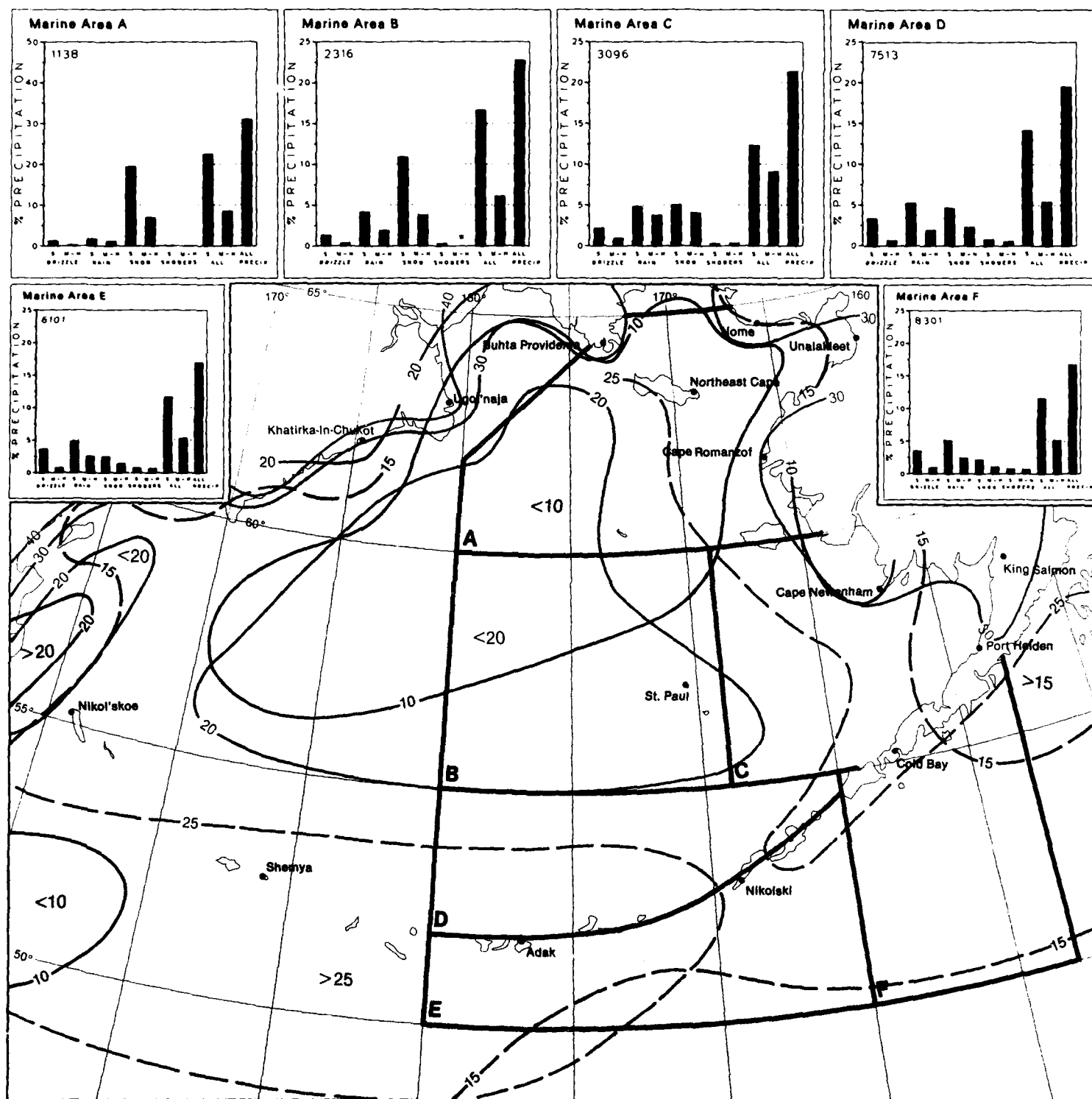
October





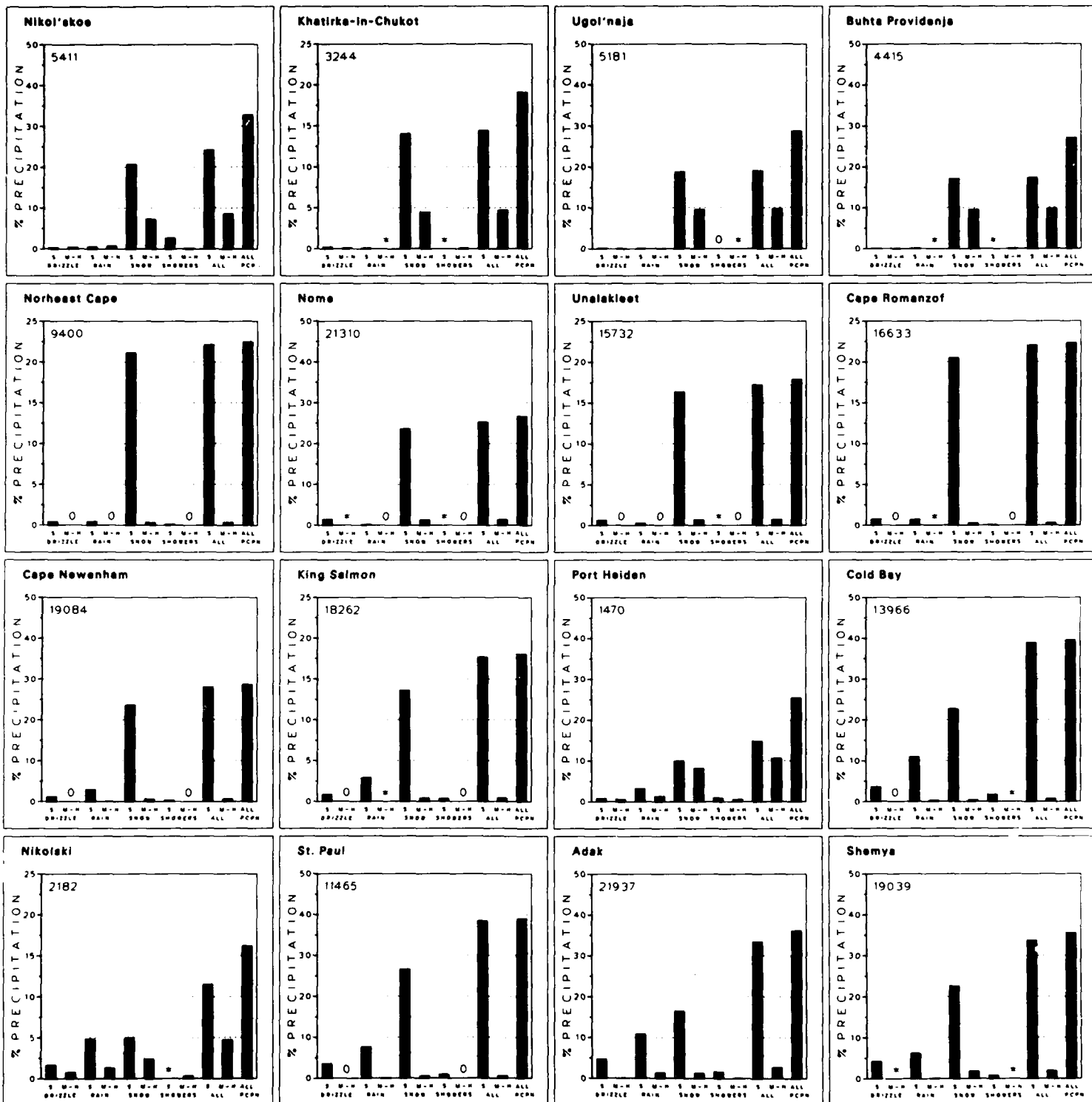
November

2 Precipitation Types



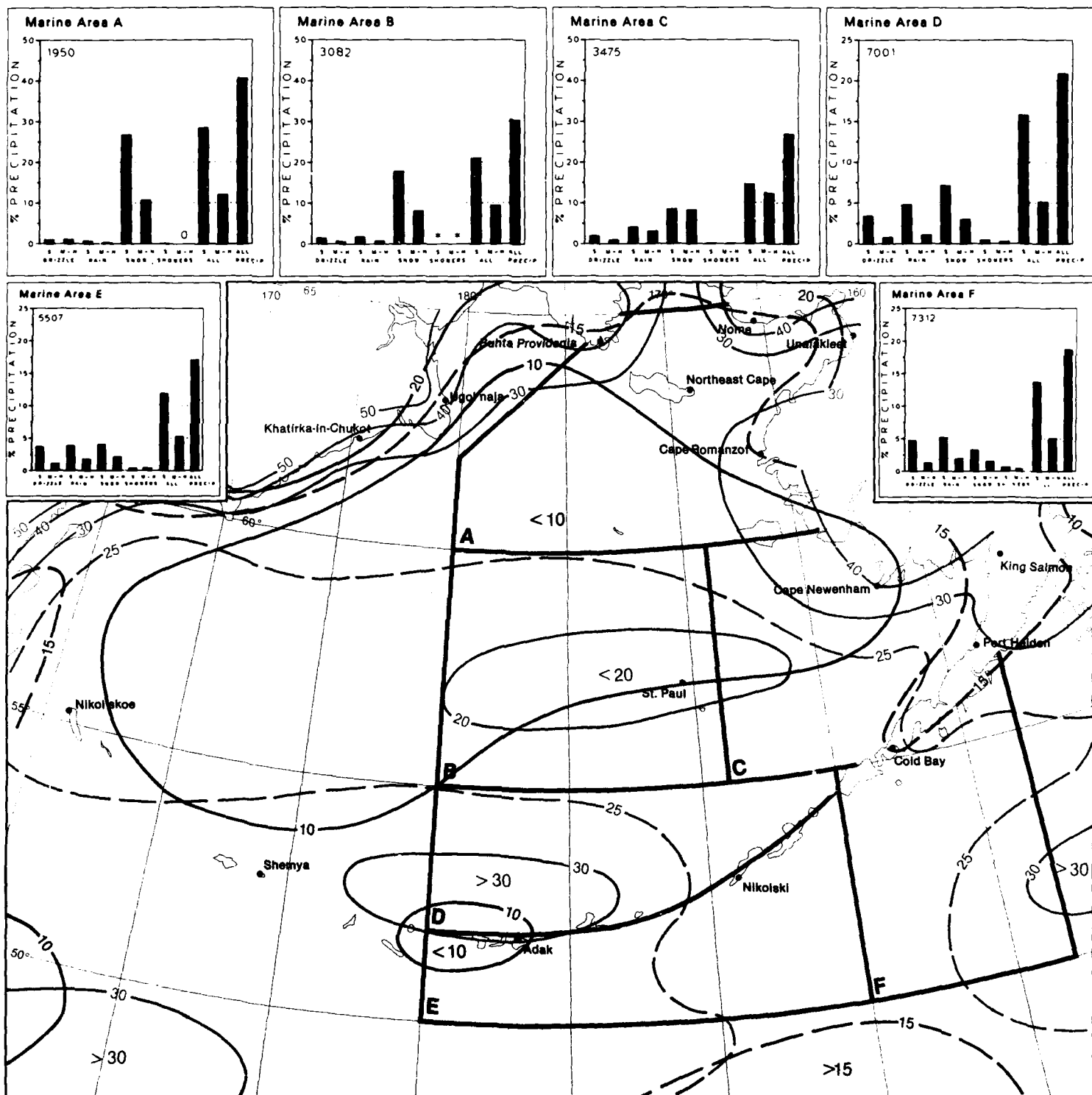
2 Wind-Visibility-Cloudiness

November



December

2 Precipitation Types



2 Wind-Visibility-Cloudiness

December



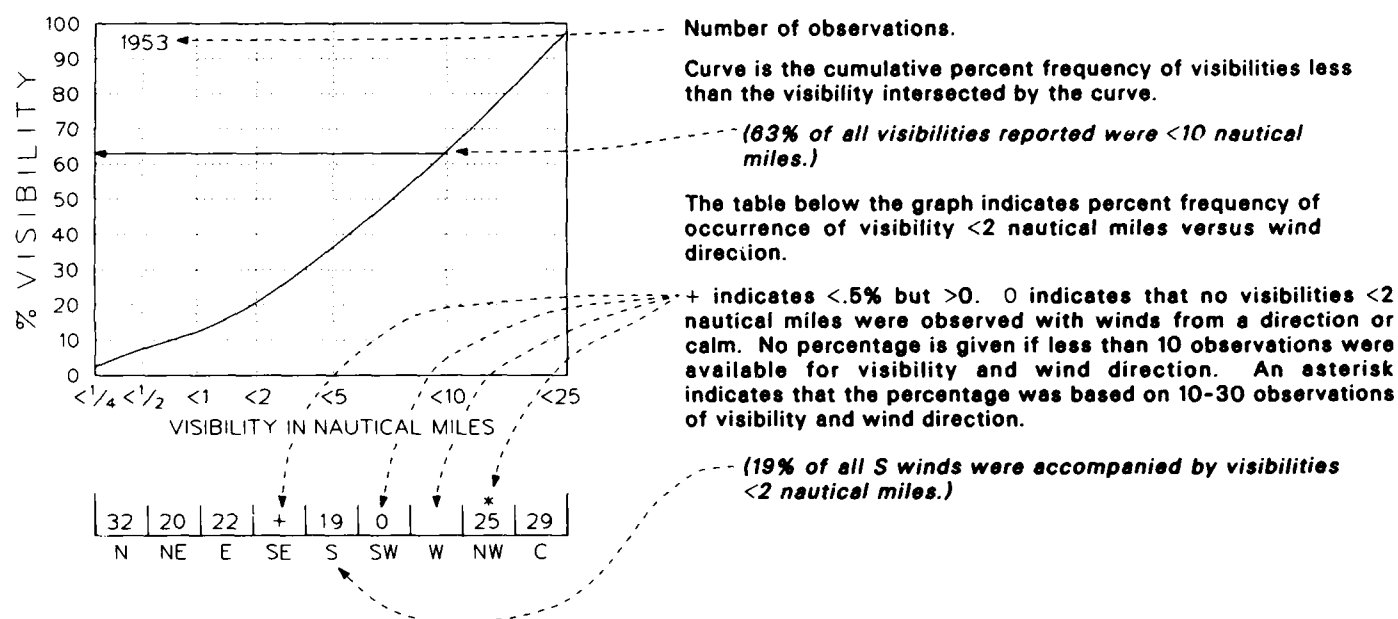
### Map 3. Ceiling/visibility (low range)

**BLACK LINE** – Percent frequency of low cloud ceiling (LCC) <300 feet and/or visibility <1 nautical mile.

**BLUE LINE** – Percent frequency of LCC <600 feet and/or visibility <2 nautical miles.

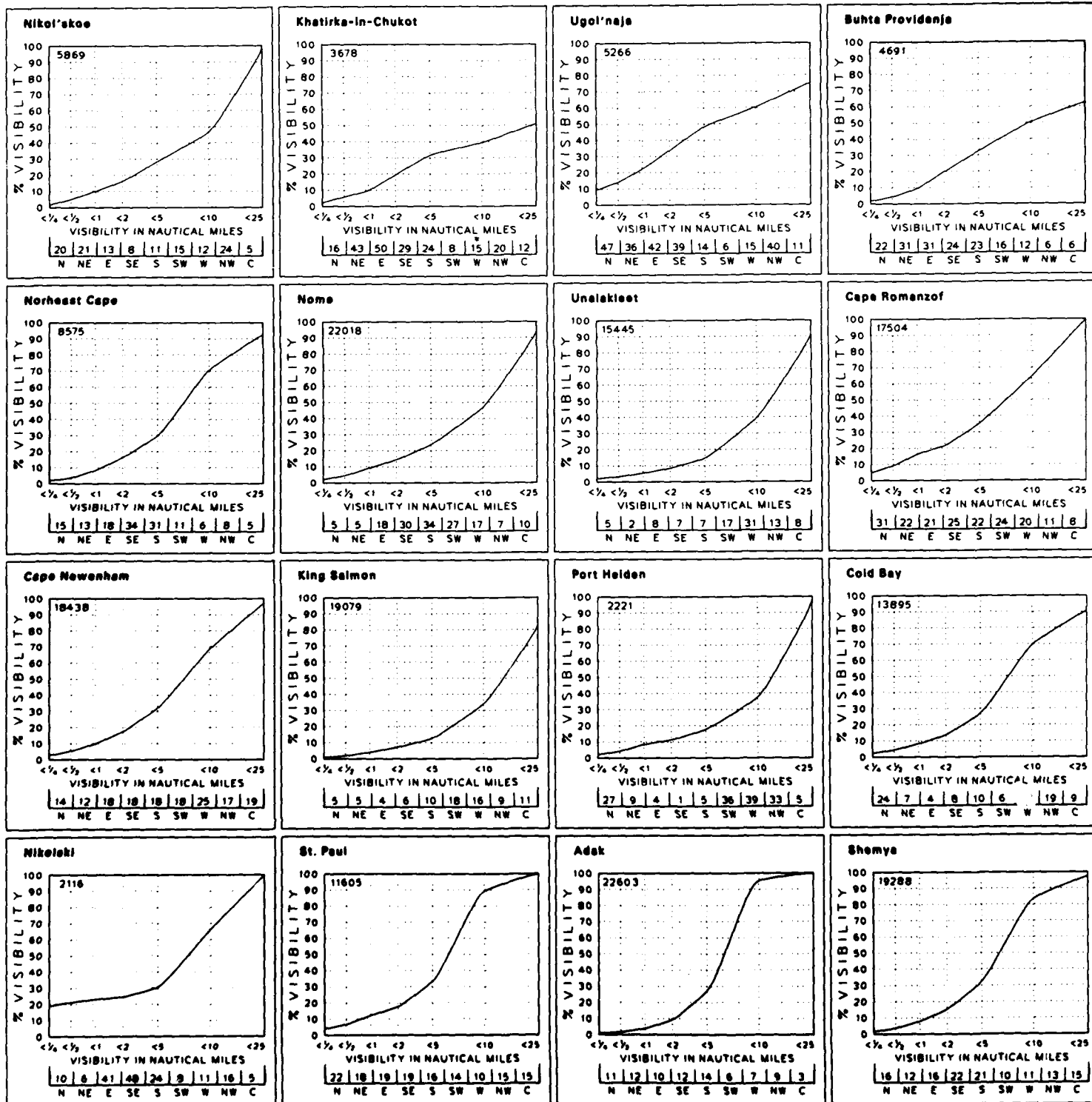
Albers Equal-Area Conic Projection

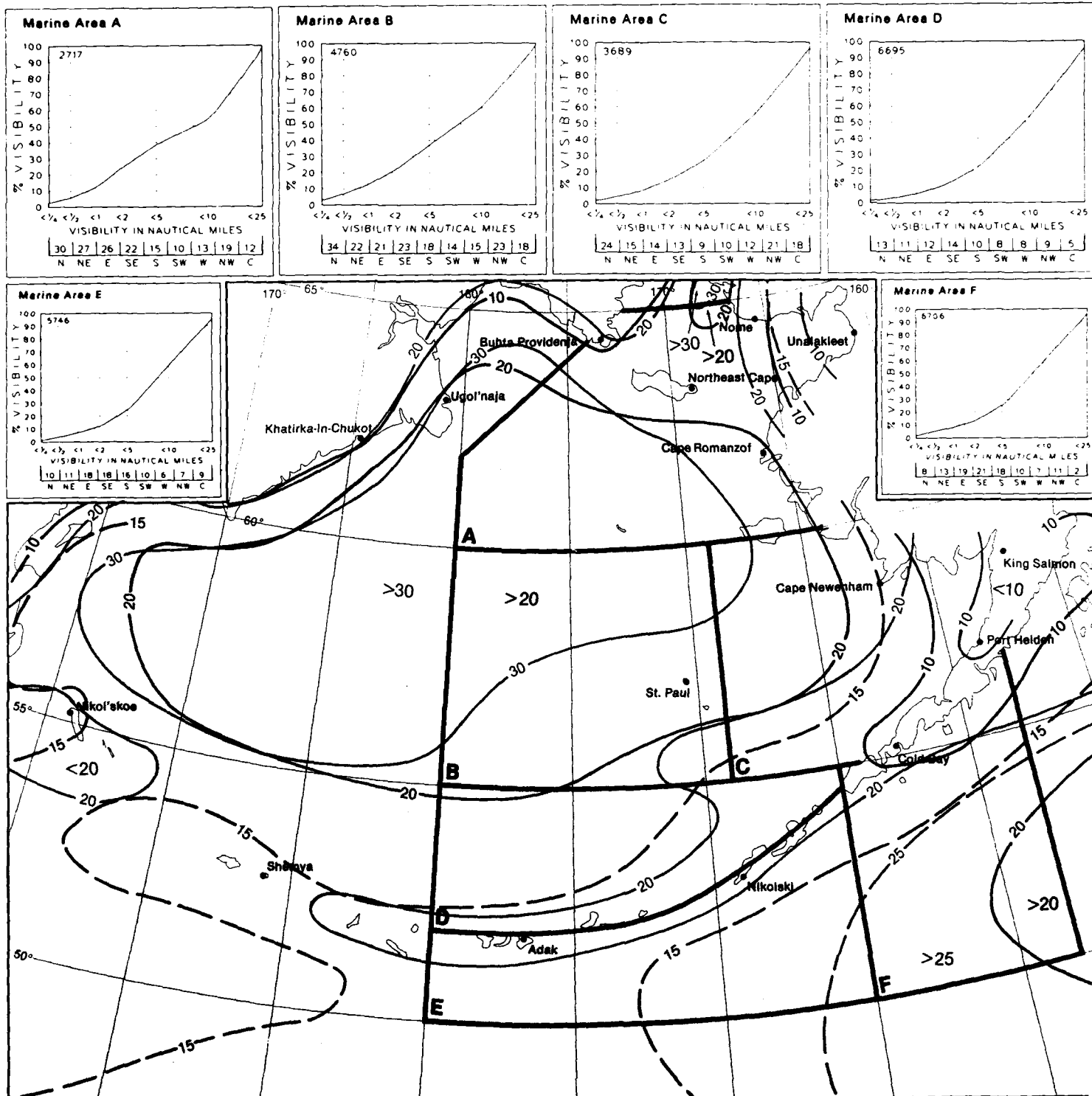
### Graphs: Visibility/wind direction



The percent frequency of visibilities equal to or greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%. Refer to the text in Set 5 for descriptive information on visibility.

Aircraft-type ceilings are not available from marine observations. The ceilings are estimated from the height of the lowest cloud when low clouds (heights of less than 8,000 feet) cover more than half the sky. When the sky is totally obscured by snow, rain, fog, or other phenomena, the total obscuration is considered a ceiling with a height of zero. Refer to the texts in Sets 4 and 6 for additional information on clouds.

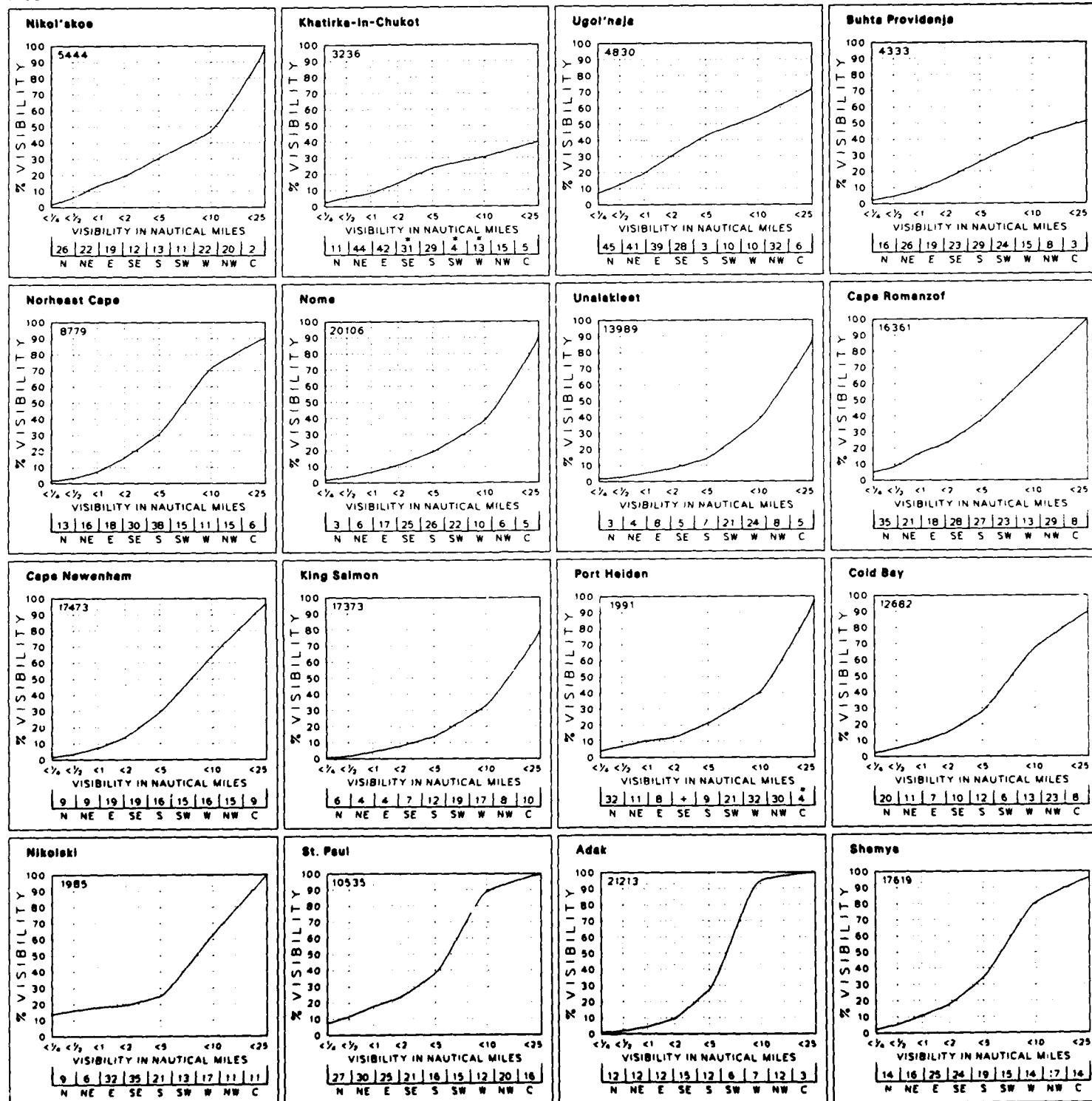


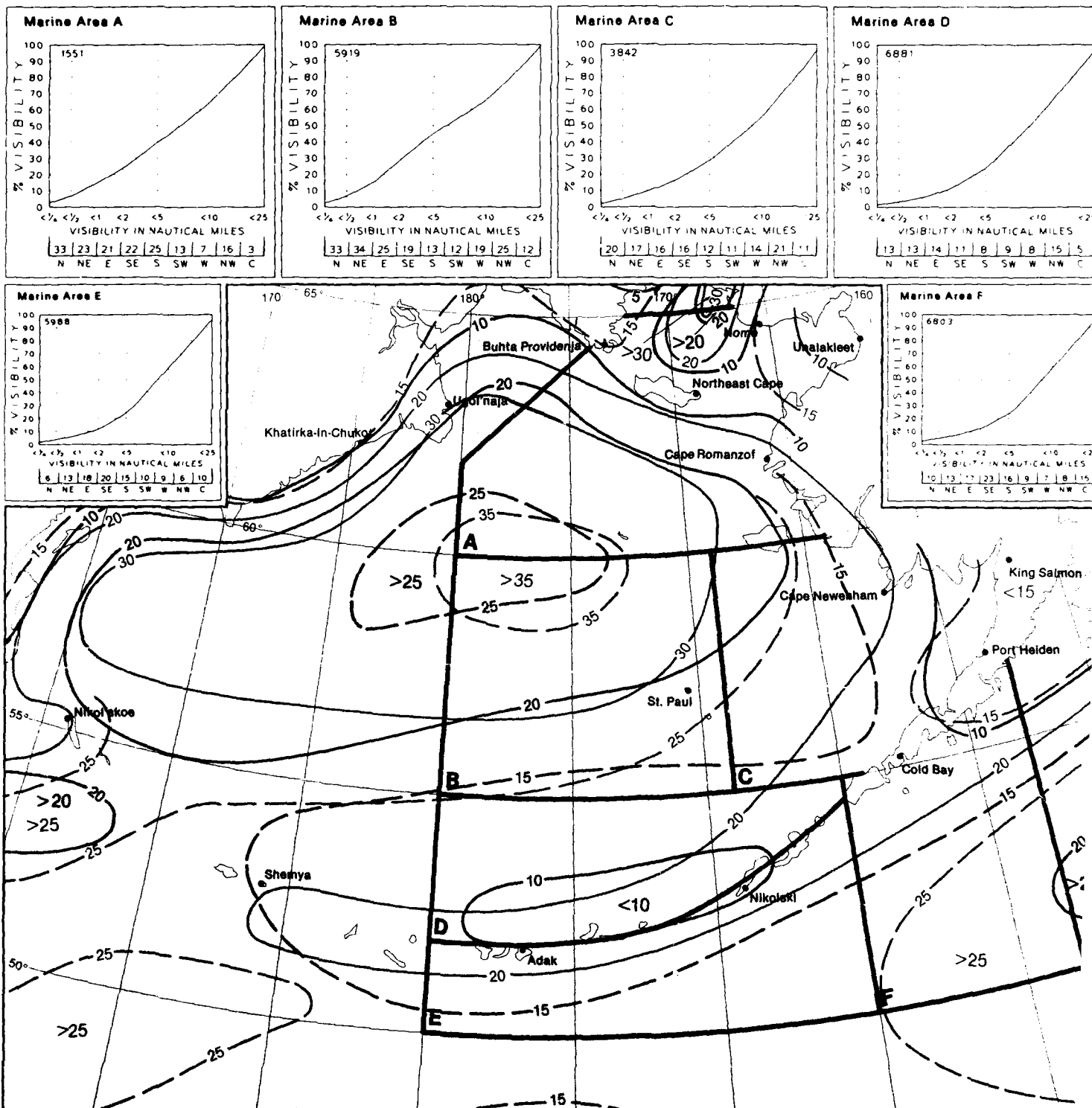


3 Ceiling and Visibility (low range)

Januar

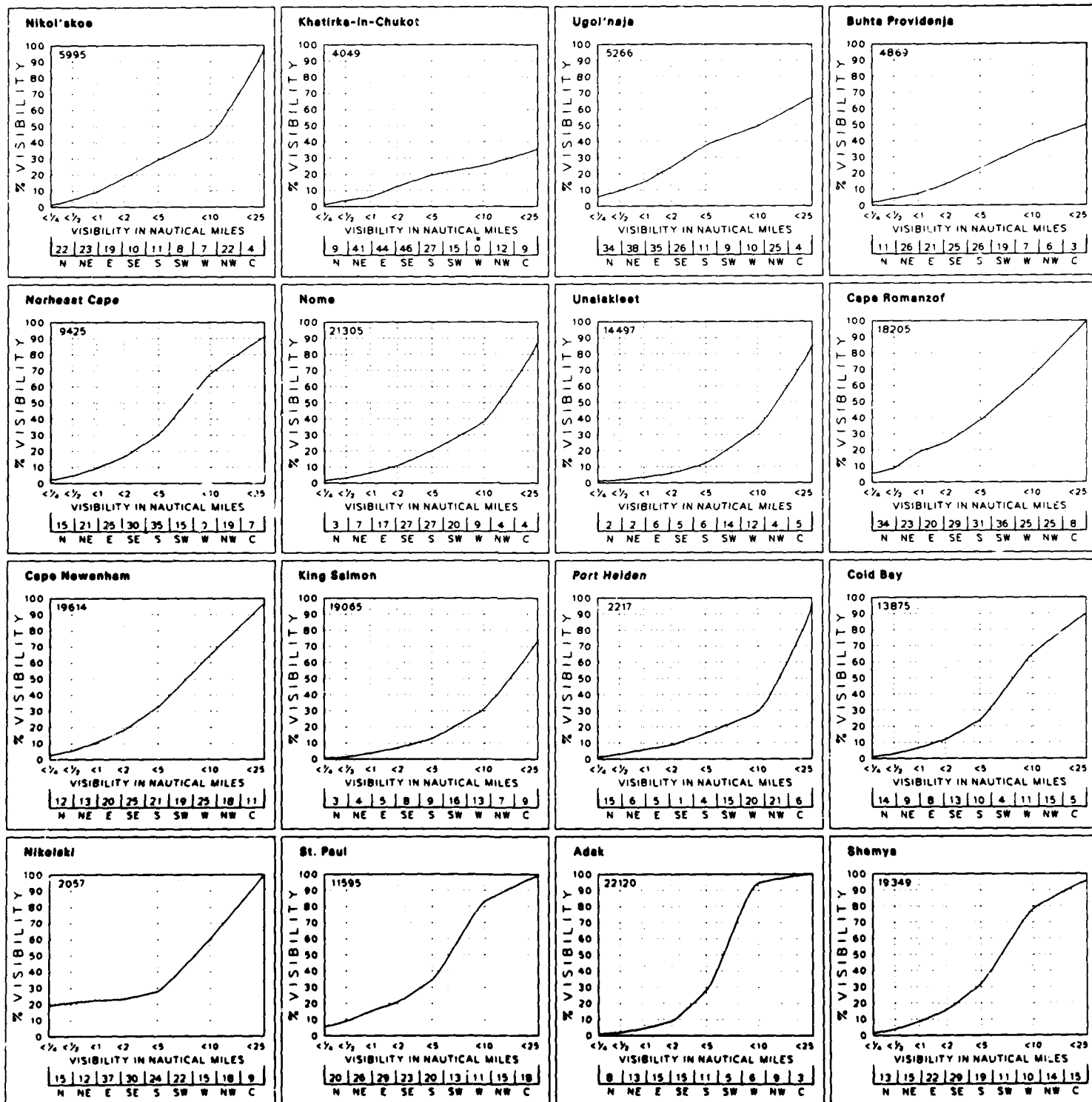






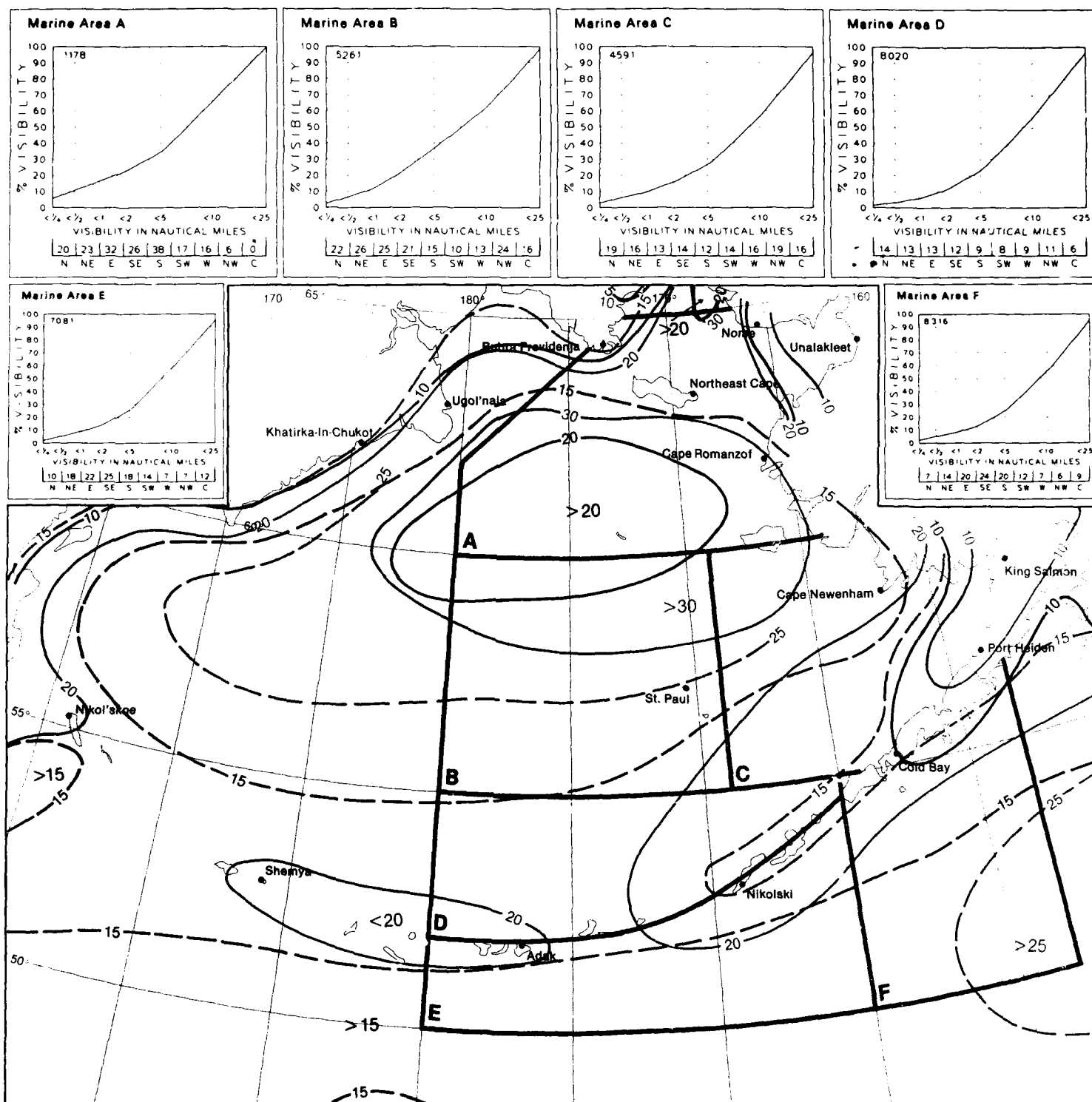
3 Ceiling and Visibility (low range)

Febru



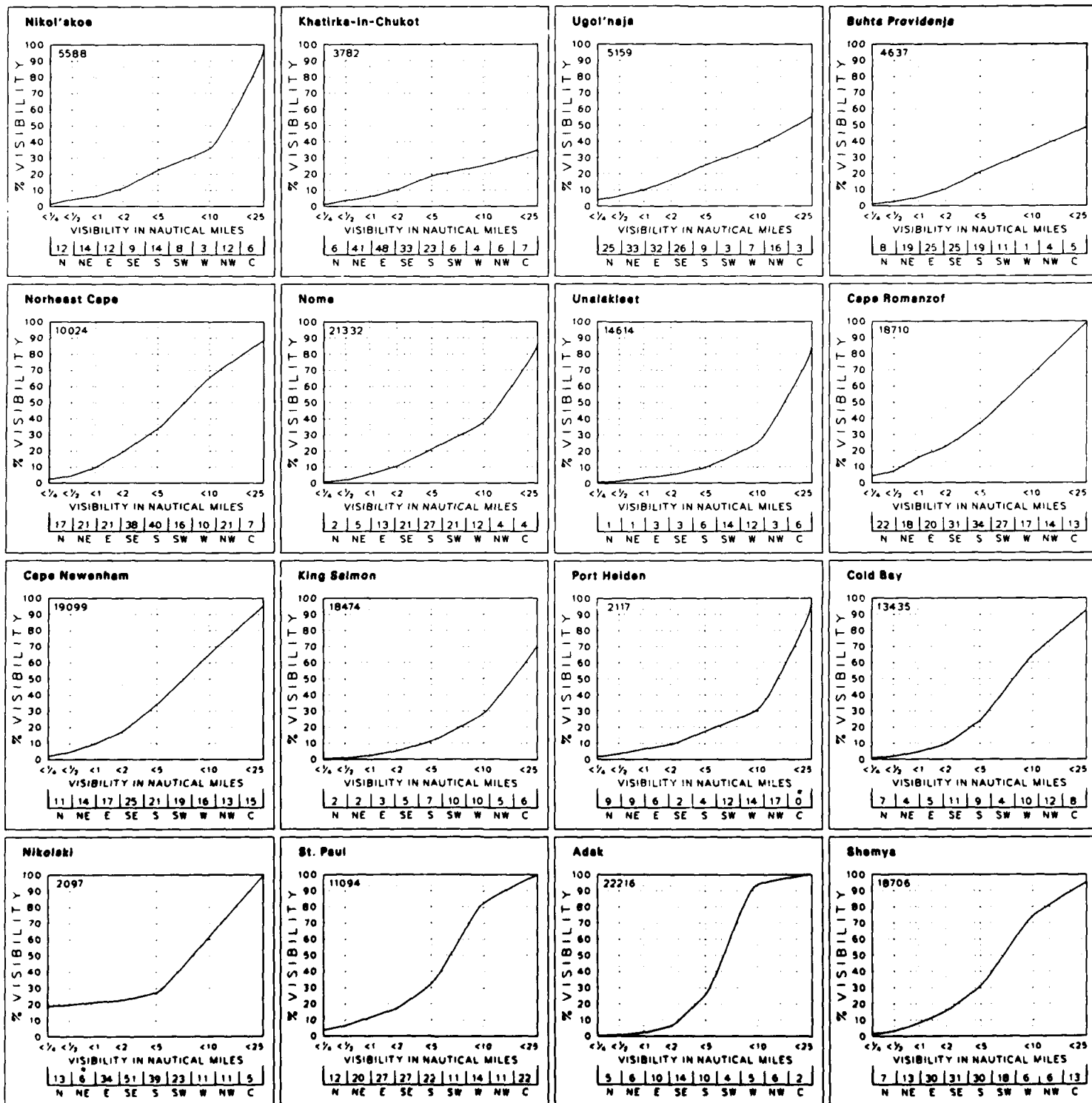
March

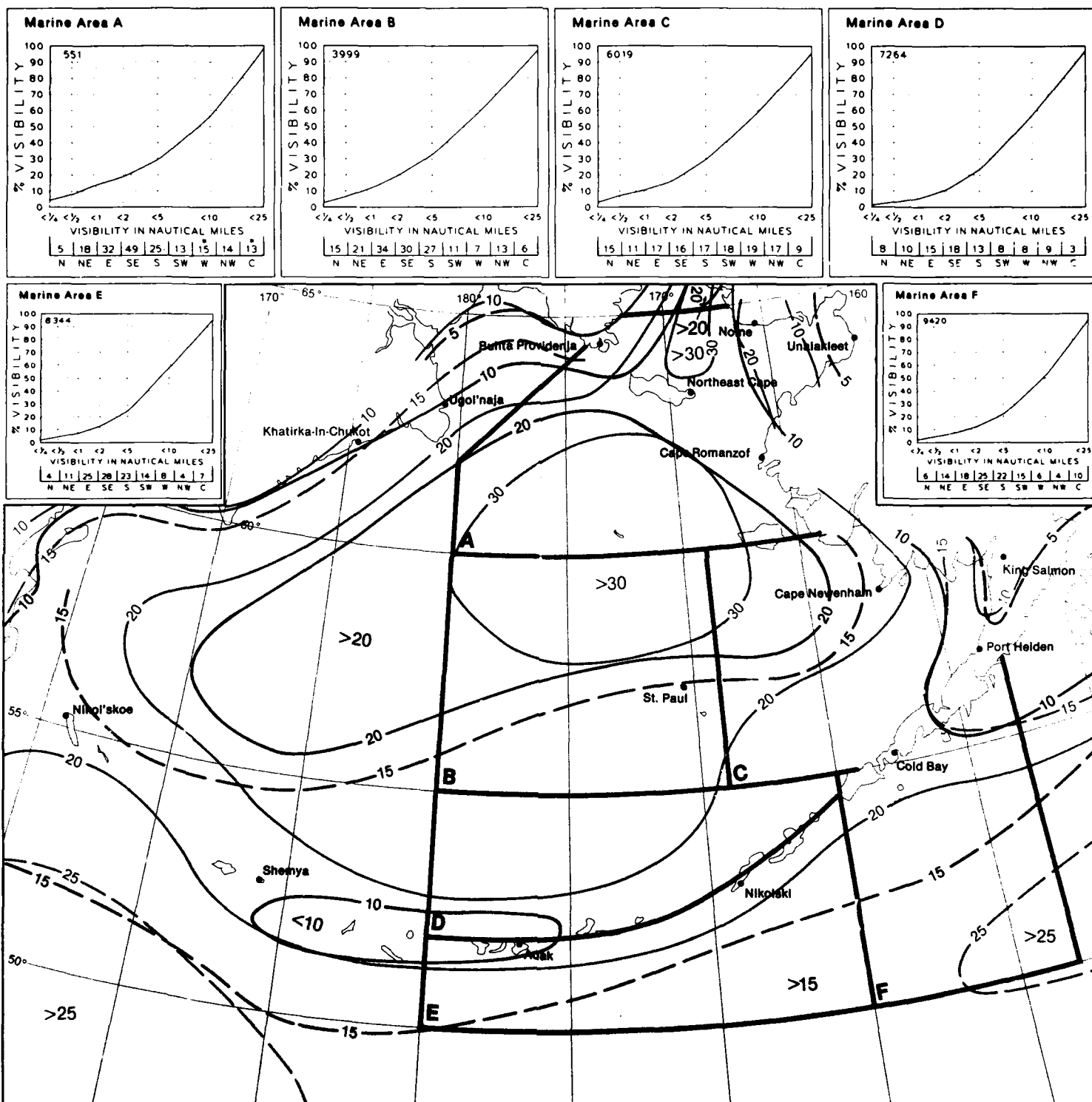
3 Visibility and Wind Directio



3 Ceiling and Visibility (low range)

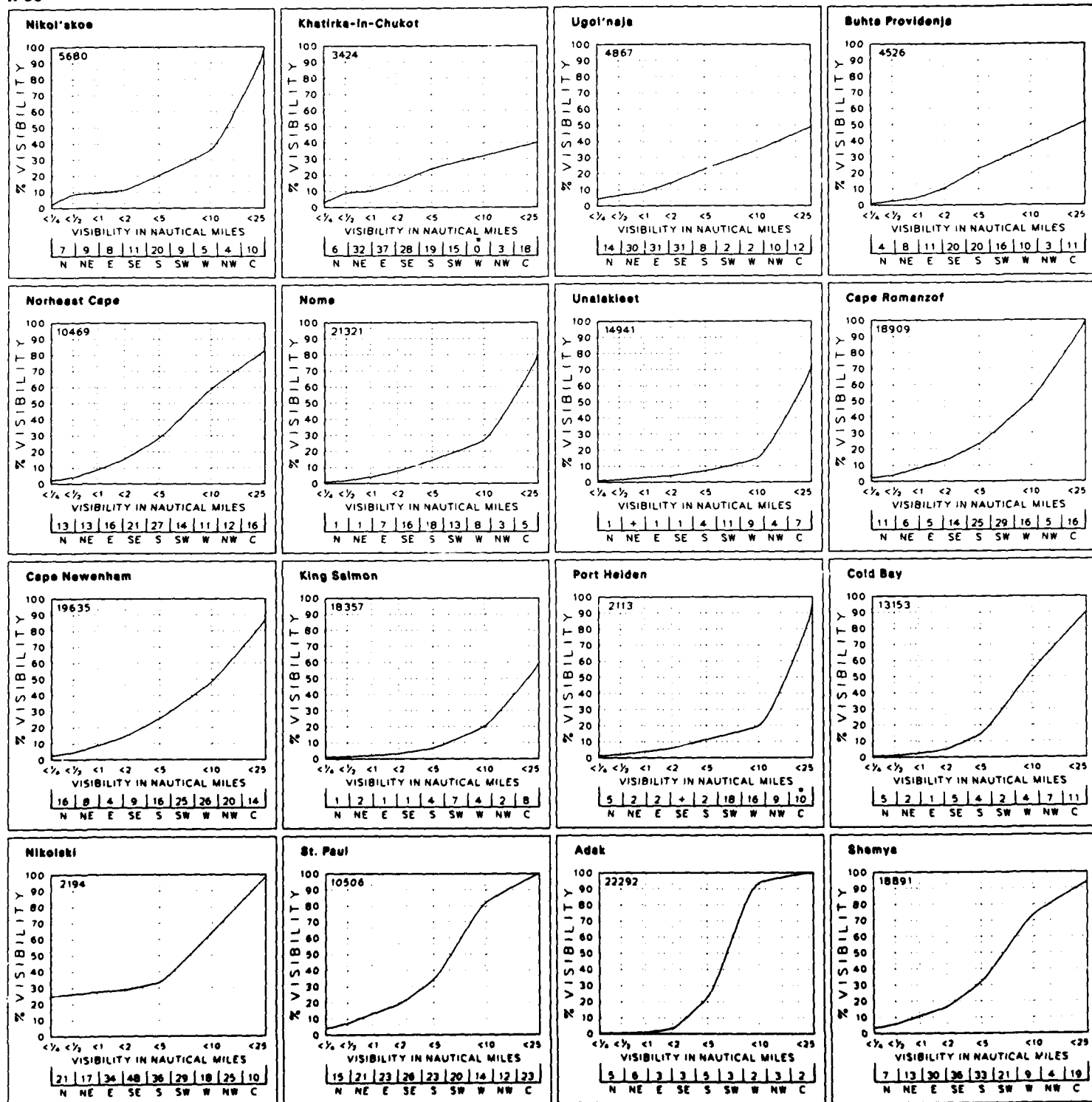
Marcl





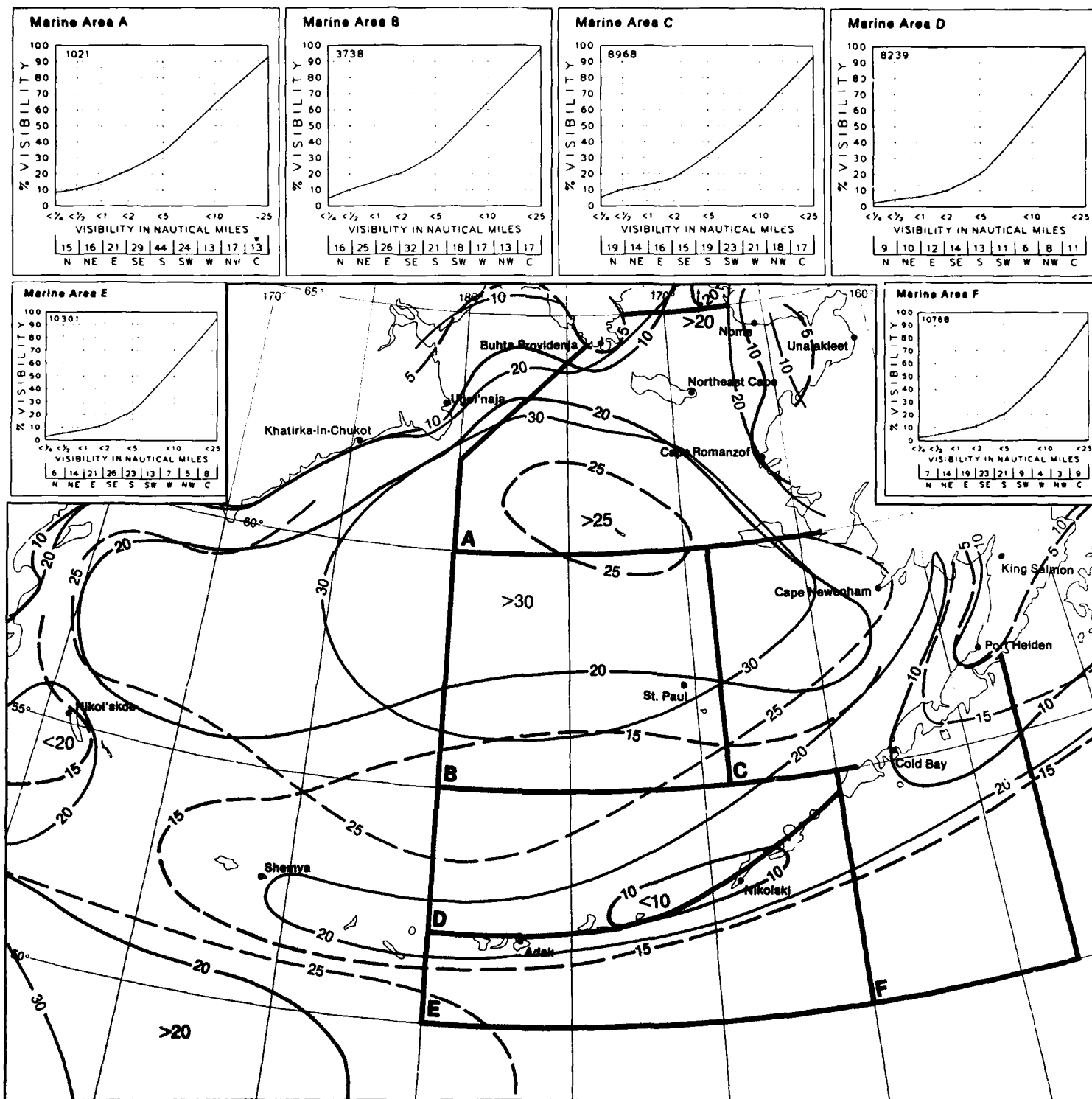
3 Ceiling and Visibility (low range)

April



May

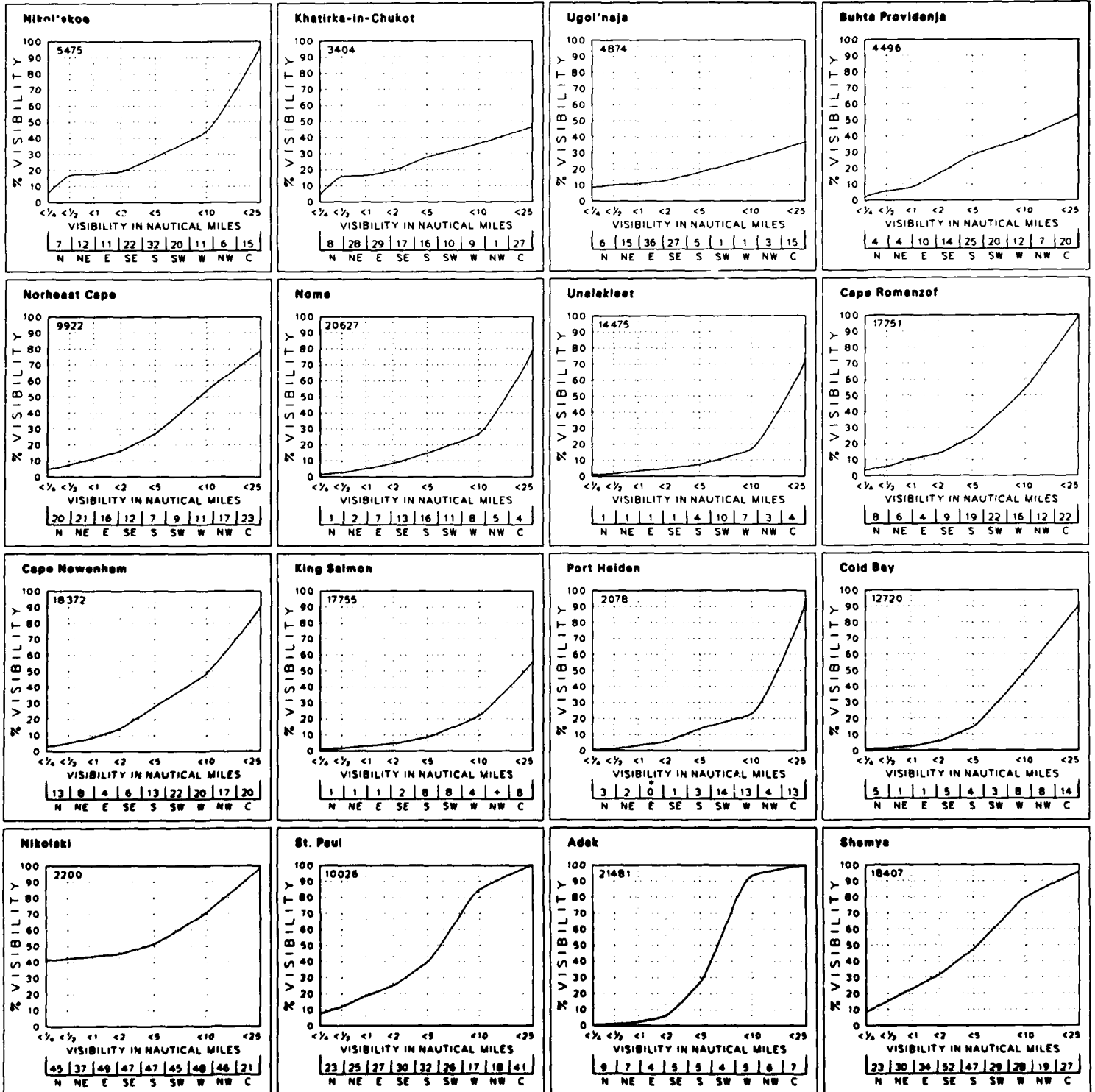
3 Visibility and Wind Direction

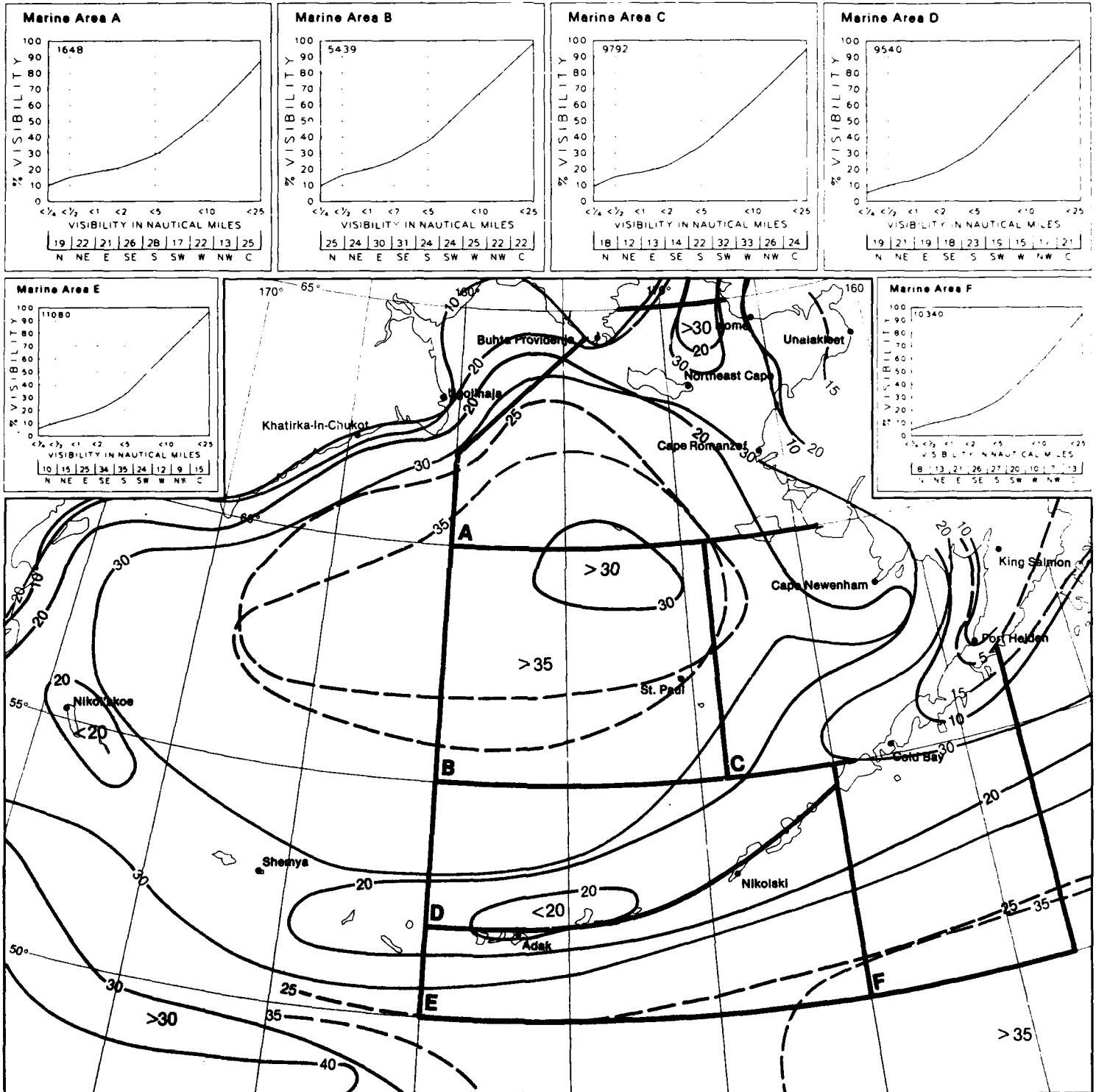


3 Ceiling and Visibility (low range)

May

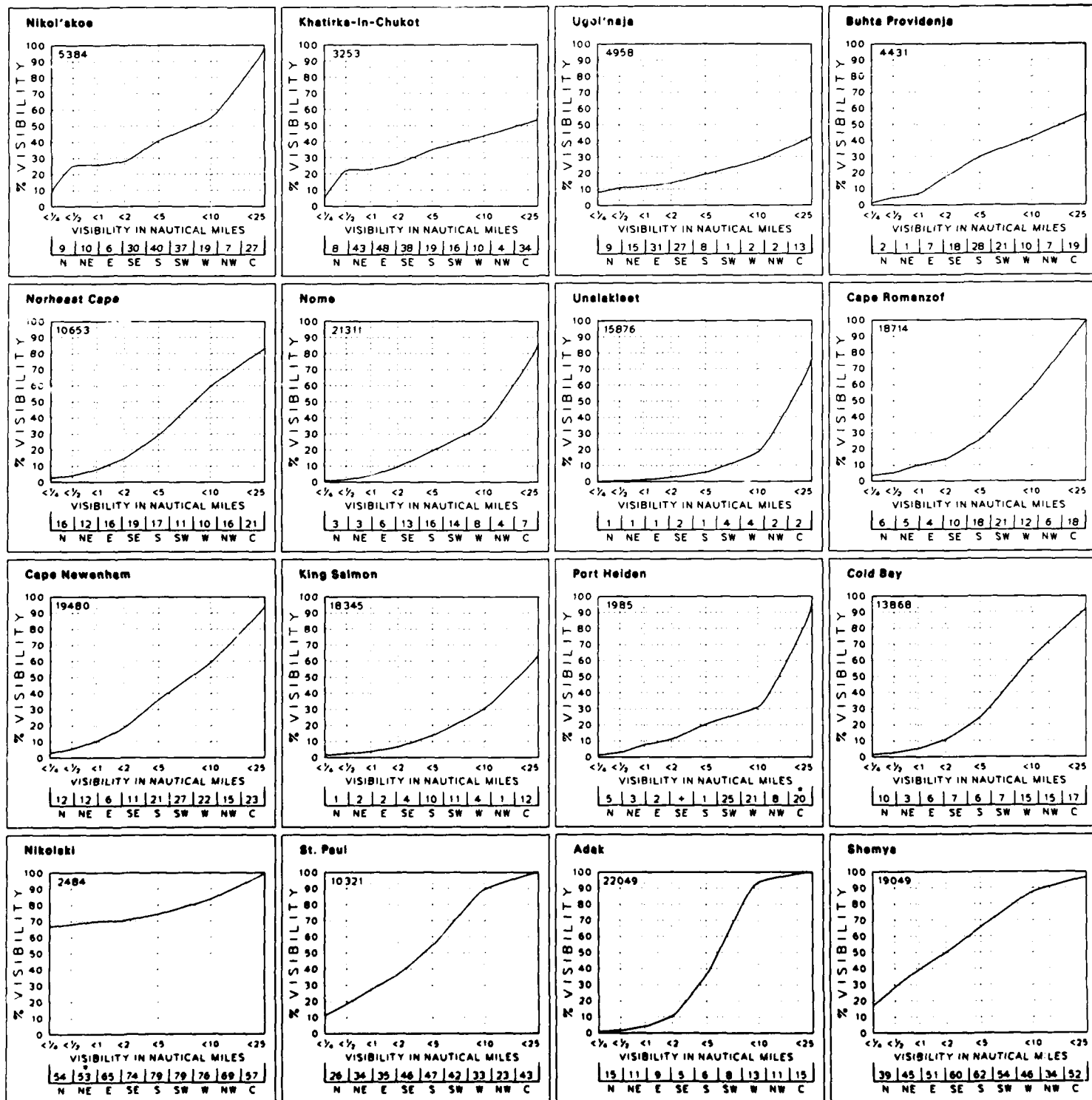






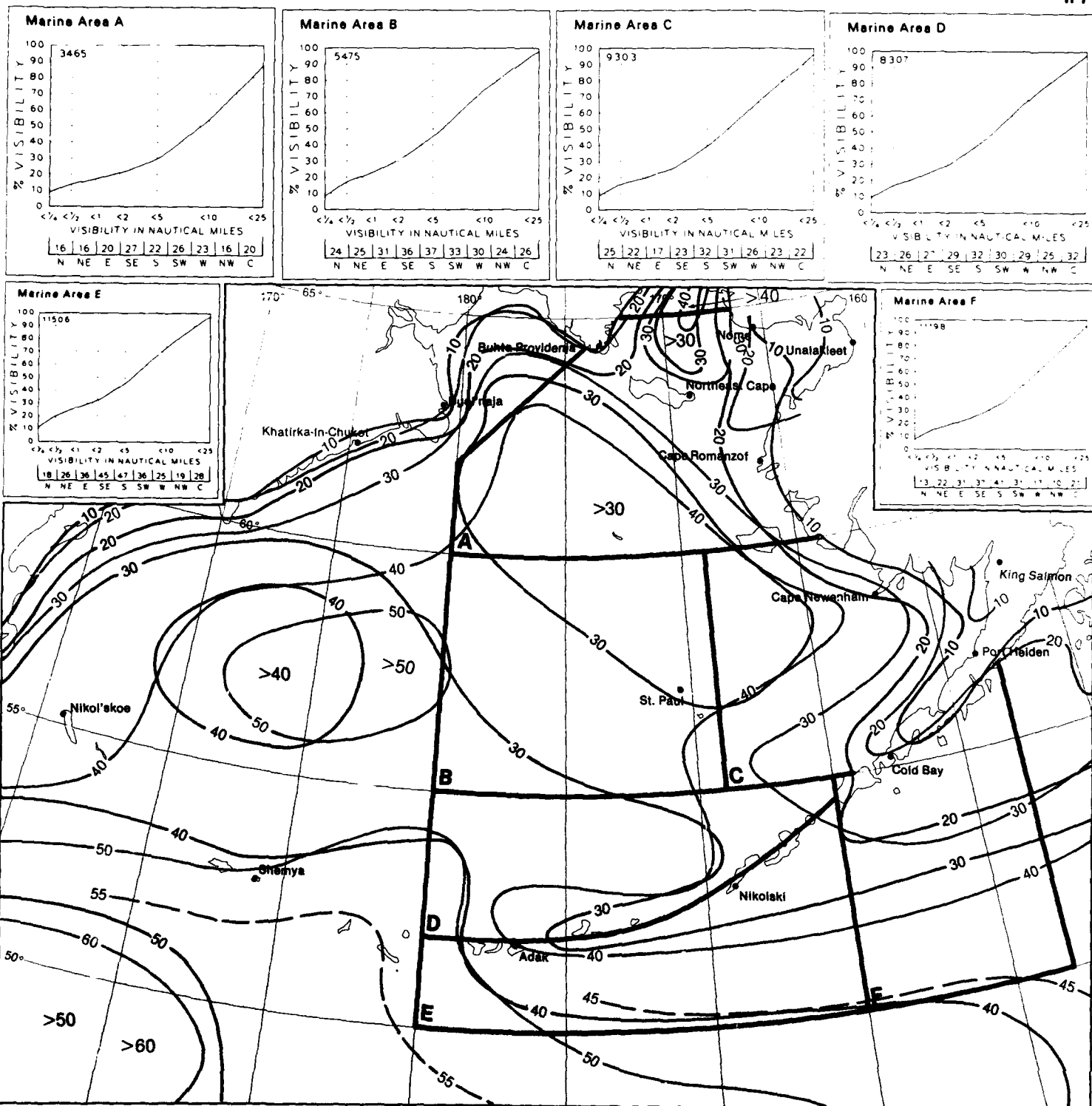
3 Ceiling and Visibility (low range)

June



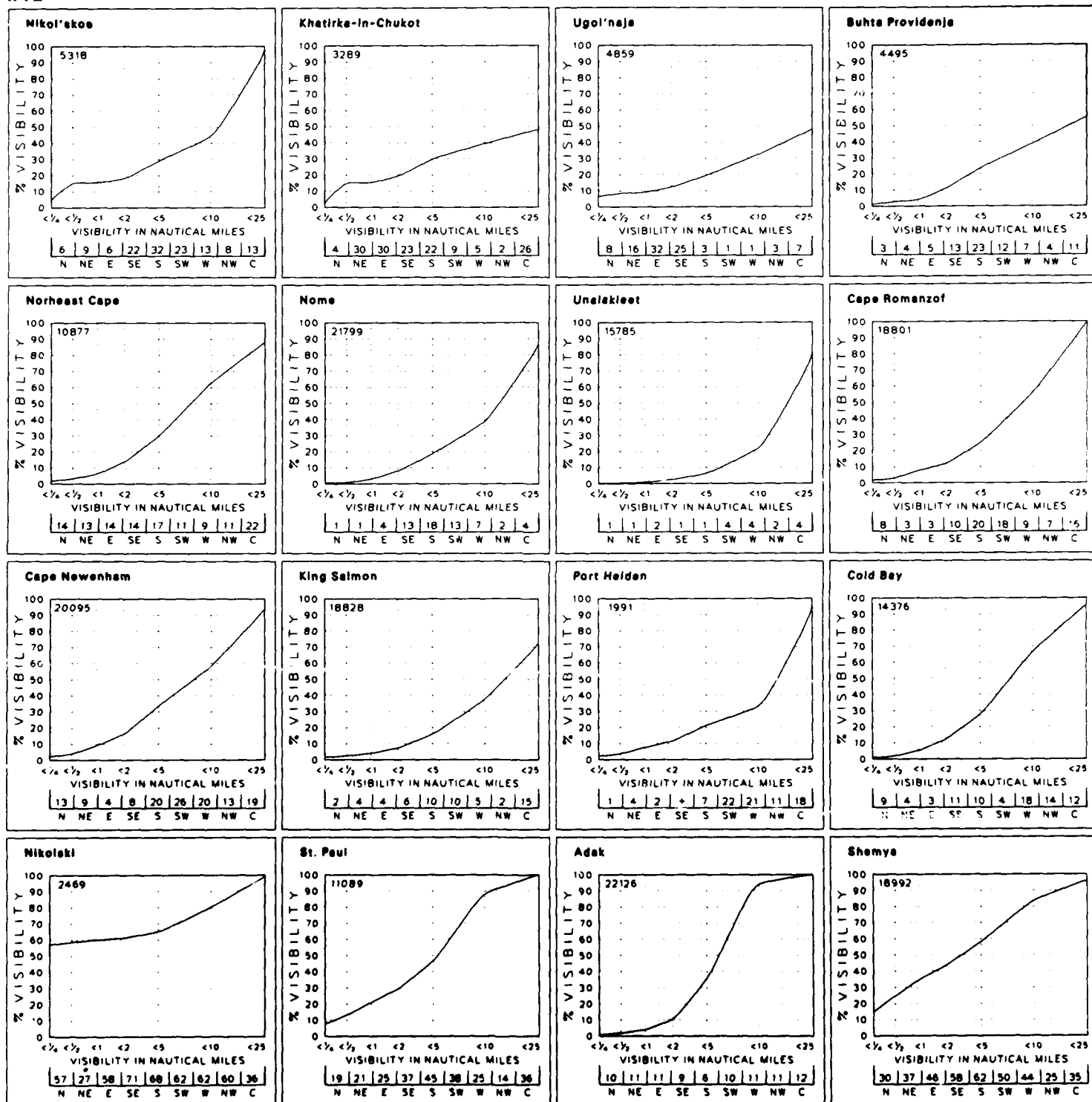
July

3 Visibility and Wind Direction



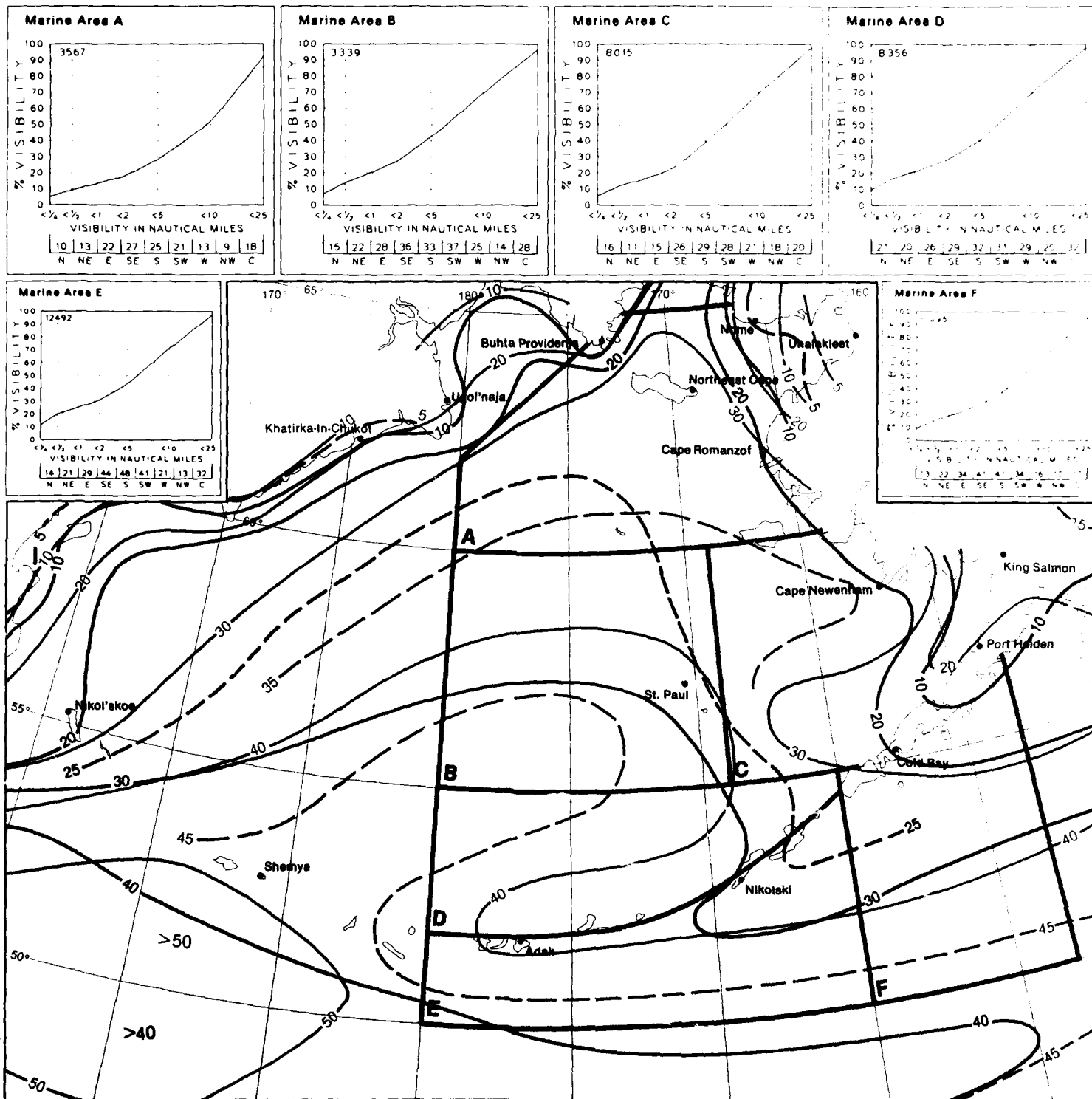
3 Ceiling and Visibility (low range)

July



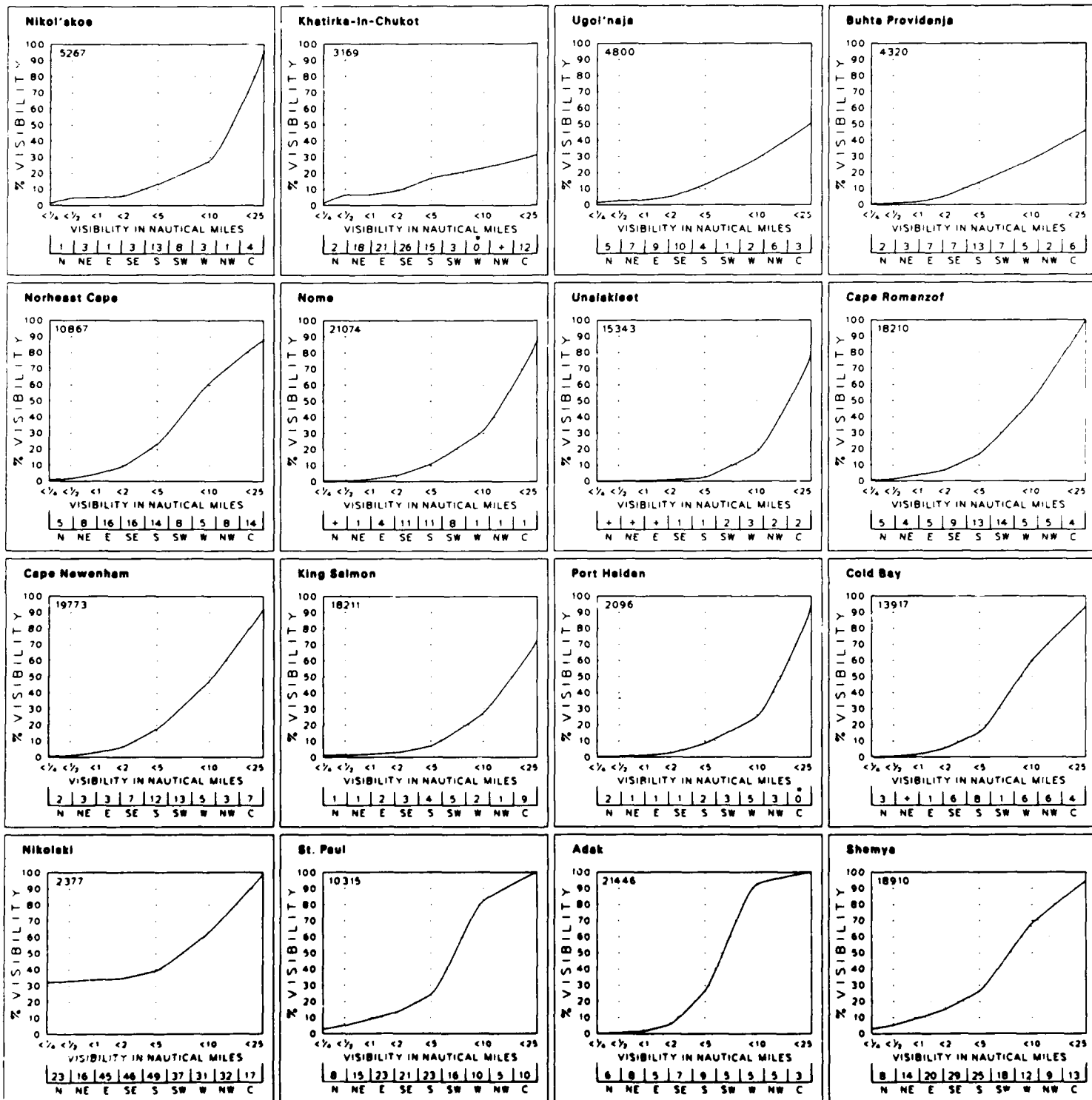
August

3 Visibility and Wind Direction



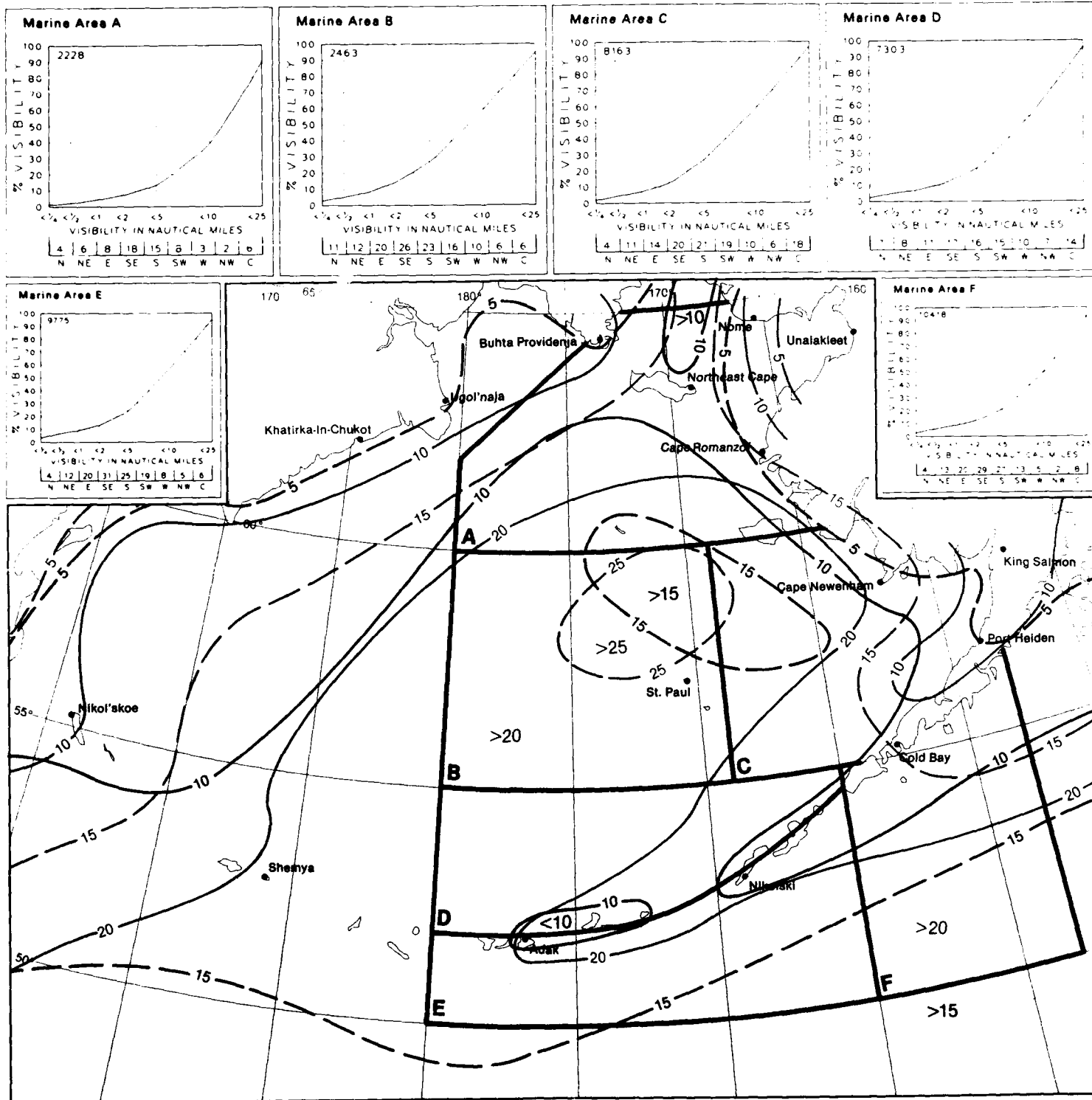
3 Ceiling and Visibility (low range)

August



September

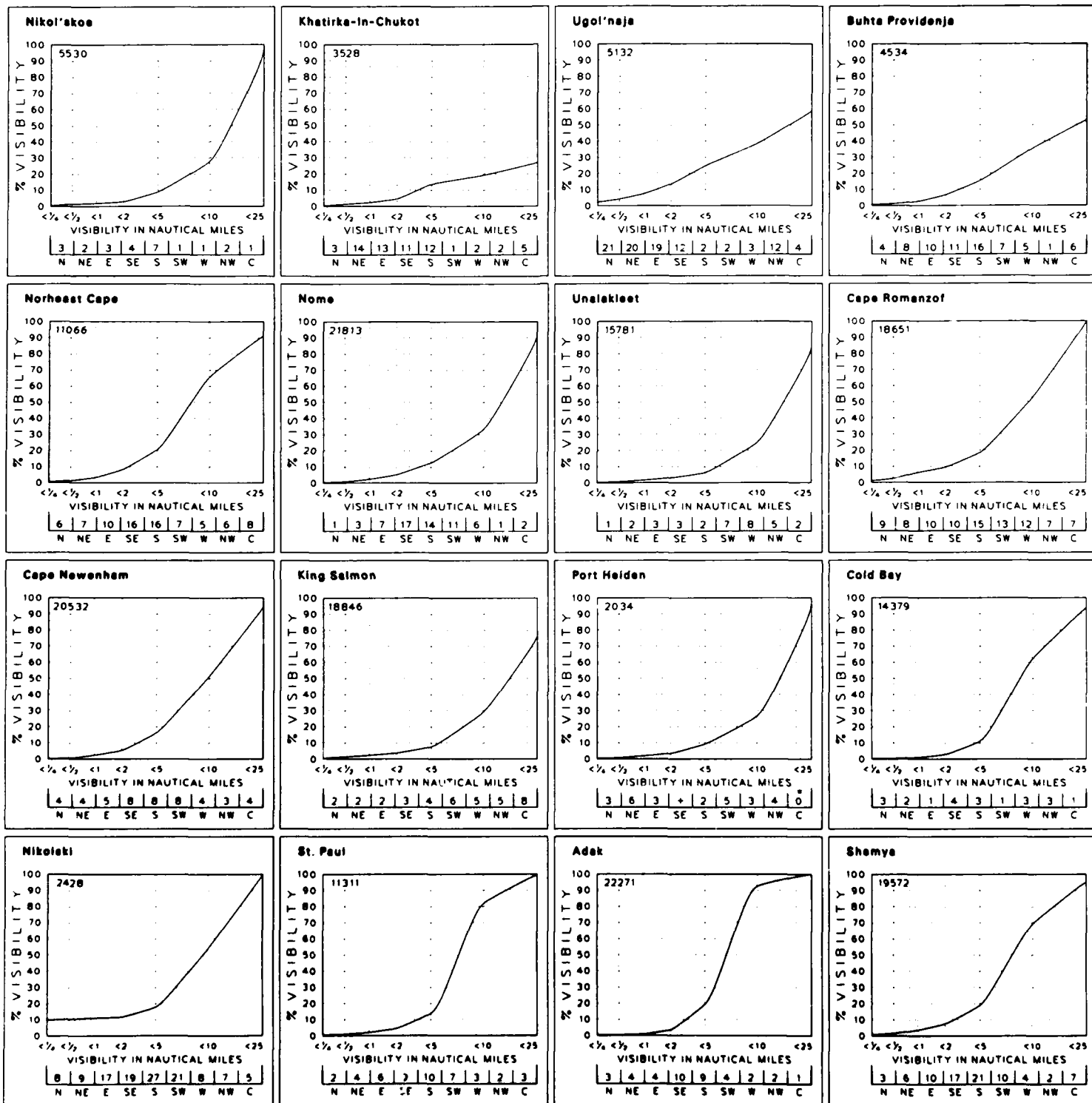
3 Visibility and Wind Direction

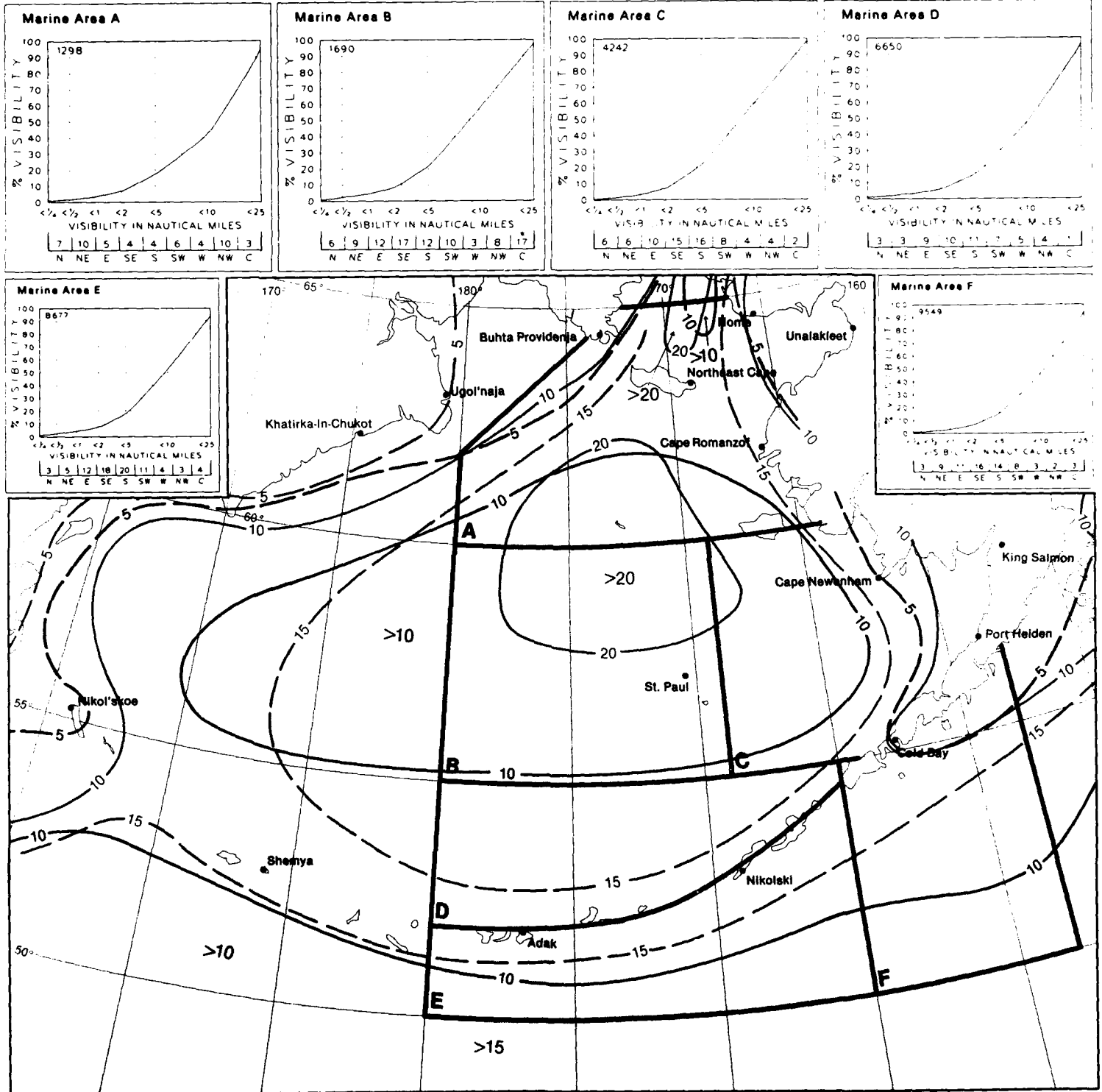


3 Ceiling and Visibility (low range)

September

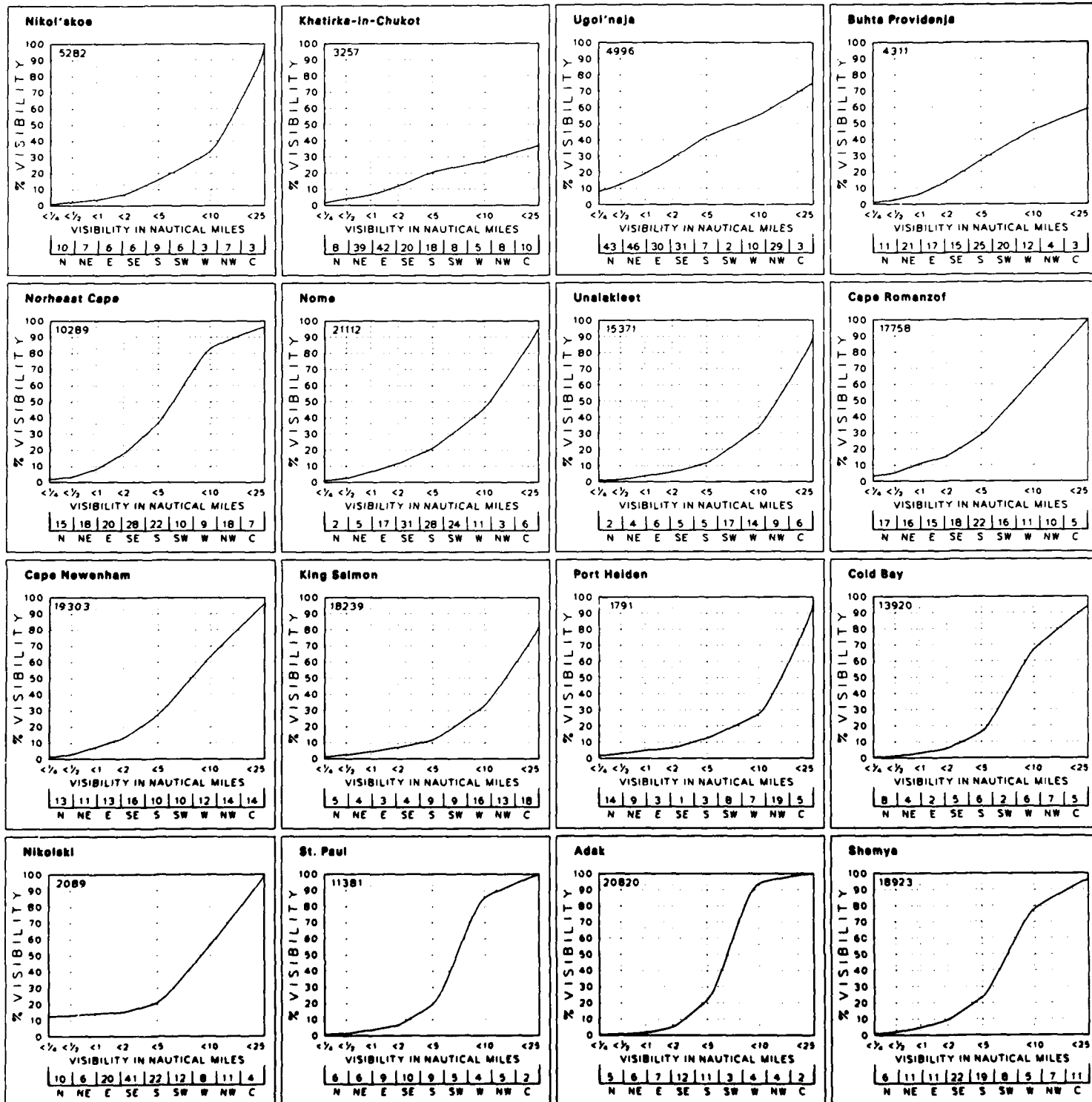


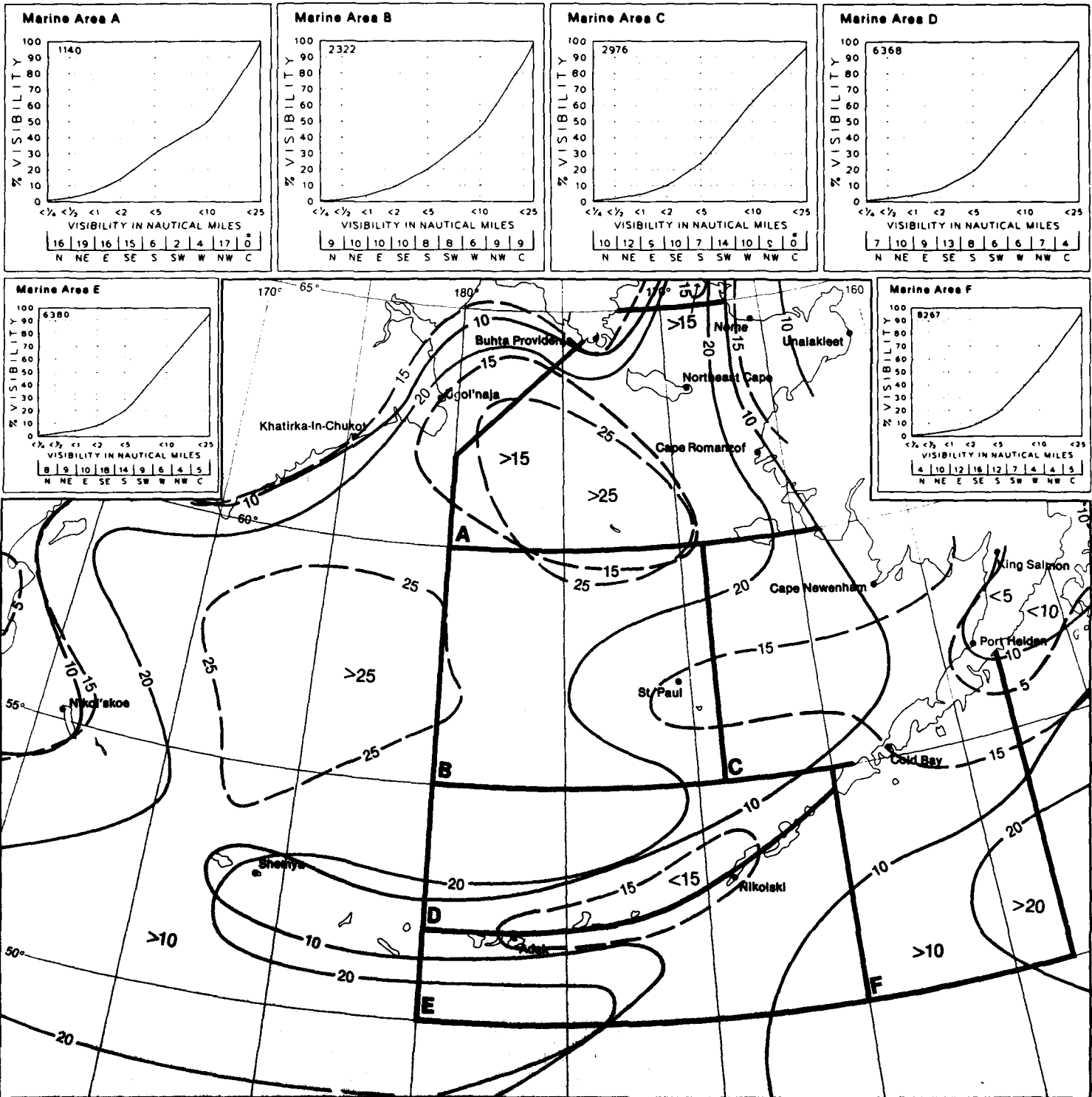




3 Ceiling and Visibility (low range)

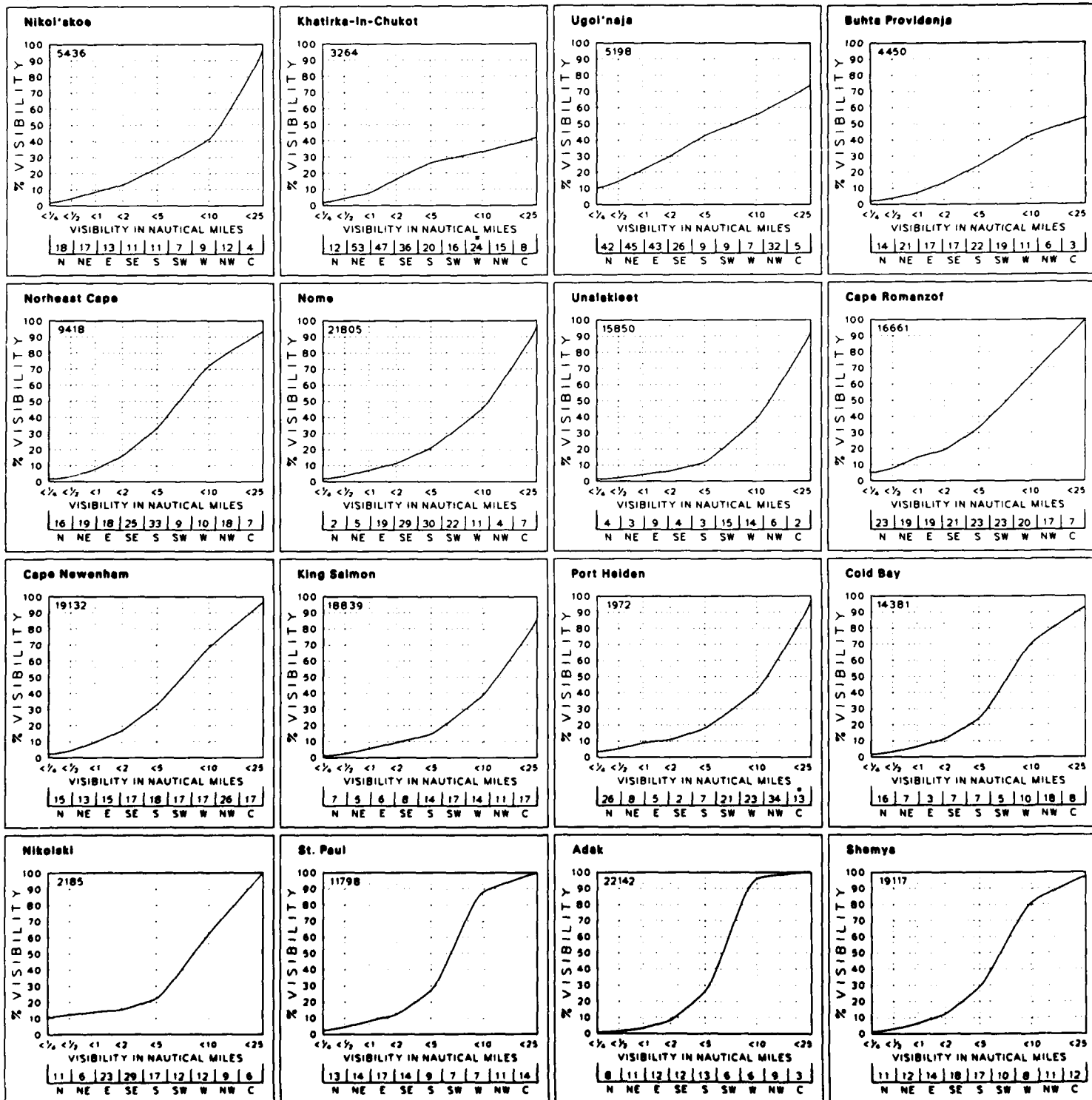
October





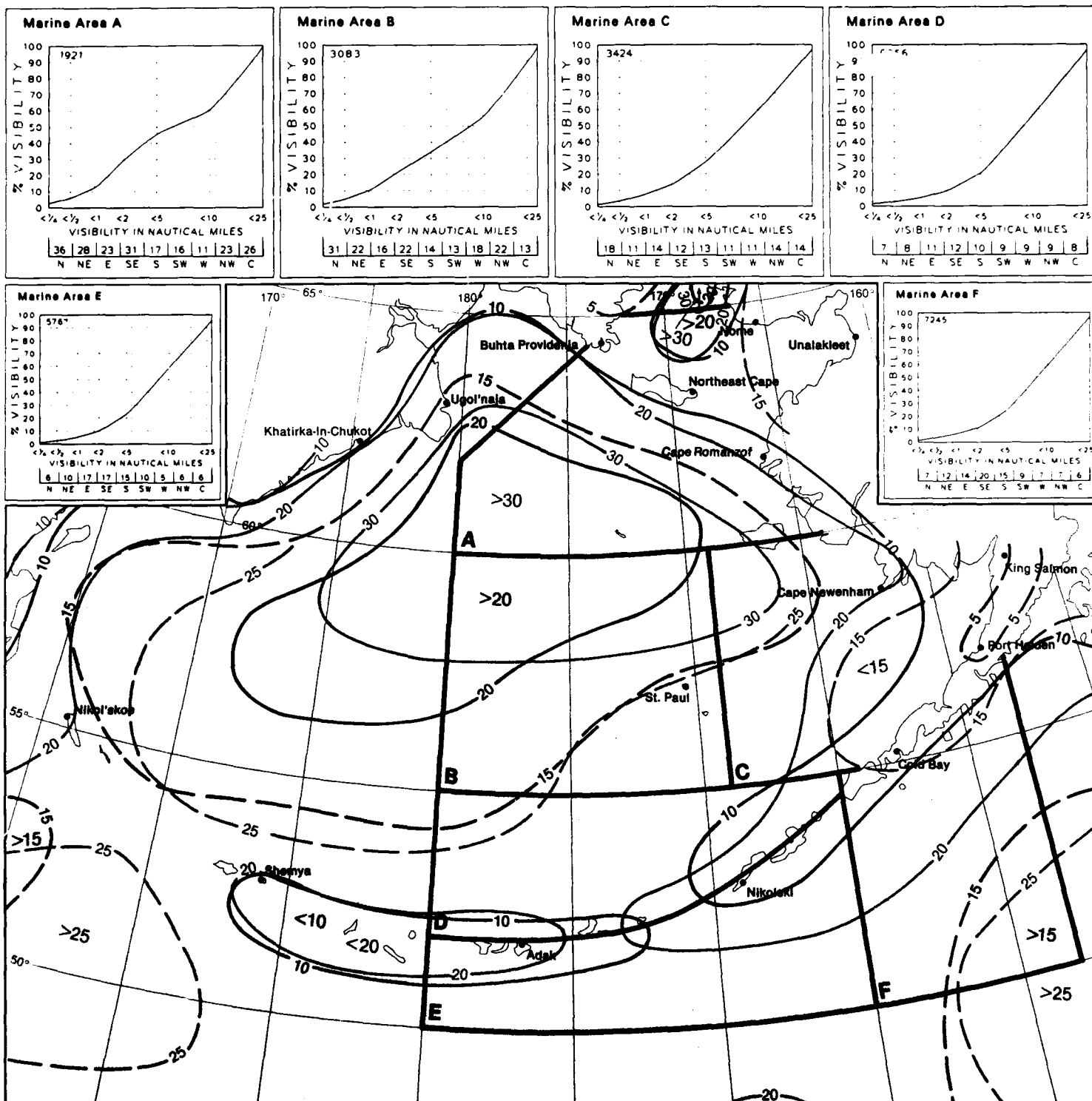
3 Ceiling and Visibility (low range)

November



December

3 Visibility and Wind Direction



3 Ceiling and Visibility (low range)

December

### Map 4. Ceiling/visibility (mid range)

BLACK LINE – Percent frequency of low cloud ceiling (LCC) <1000 feet and/or visibility <5 nautical miles.

BLUE LINE – Percent frequency of LCC <8000 feet and/or visibility <10 nautical miles.

Albers Equal-Area Conic Projection

### Graphs: Low cloud ceiling/visibility

Percent frequency of simultaneous occurrence of specified low cloud ceiling (hundreds of feet) and visibility (nautical miles).

LOW CLOUD CEILING (10 <sup>2</sup> FT)	VISIBILITY (NM)						1659
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	0	+	2	7	11	Number of observations.
50<80	0	0	+	+	1	1	
35<50	+	+	+	1	2	3	Low cloud ceiling heights are estimated from the height of low clouds (h) when low cloud amount (N <sub>h</sub> ) is ≥5/8.
20<35	1	1	2	3	8	11	
10<20	1	3	3	4	8	8	Obscurations are included under ceiling "0<1.5".
6<10	+	+	1	2	1	1	
3<6	+	+	+	1	+	+	"NC" (no ceiling) includes bases of clouds ≥8000 feet or N <sub>h</sub> <5/8.
1.5<3	0	0	+	0	0	+	
0<1.5	5	2	2	1	2	+	(8% of all observations reported ceiling ≥1000 feet but <2000 feet simultaneously with visibility ≥5 but <10 nautical miles).

+ indicates <.5% but >0.

Cloud classification is based upon the cloud appearance and, when possible, the formation process. In estimating the height of the lowest cloud base (h), the observer first determines the type of cloud; and, based on the normal height range for that cloud type, determines the height. Heights are generally higher in the tropics and lower at high latitudes. Similarly, clouds will generally be higher in summer and lower in winter. The appearance of the cloud, such as motion visible in the cloud base and the size of the cloud elements, gives some indication as to how much it is higher or lower than the average. After the observer estimates the height of the base of the lowest cloud in sight, he selects and records the appropriate code (see height table and LCC column in graph). Refer to the texts in Sets 3 and 6 for additional information on clouds.

**HEIGHT (h) ABOVE THE SEA OF THE BASE  
OF THE LOWEST CLOUD SEEN  
(WMO Code, 1982)**

If sky is clear or has only Cirrus-type clouds, code h as 9.

Code figs.	Height in meters	Height in feet
0	0 to 49	100 or less
1	50 to 99	200 or 300
2	100 to 199	400 to 600
3	200 to 299	700 to 900
4	300 to 599	1000 to 1900
5	600 to 999	2000 to 3200
6	1000 to 1499	3300 to 4900
7	1500 to 1999	5000 to 6500
8	2000 to 2499	6600 to 8200
9	2500 or more, or no clouds	8300 or more, or no clouds
/	Sky obscured by fog or snow	



## Nikel'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5827						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	+	+	+	22
50<80	0	0	0	+	+	+	
35<50	+	+	+	+	+	+	1
20<35	1	+	1	3	4	10	
10<20	3	4	5	7	9	20	
6<10	+	+	+	1	+	+	
3<6	+	+	+	+	+	+	
1.5<3	0	0	0	+	+	+	
0<1.5	1	+	0	+	+	0	

## Khetirka-Ii-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3669						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	1	1	2	3	4	50	
50<80	0	0	+	+	+	+	
35<50	+	+	+	+	+	3	
20<35	1	1	3	4	2	5	
10<20	2	1	3	3	2	2	
6<10	1	+	1	1	+	+	
3<6	+	+	+	+	+	+	
1.5<3	0	0	+	+	0	+	
0<1.5	1	0	0	0	0	0	

## Ugol'naja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5260						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	3	3	3	6	6	32	
50<80	+	0	+	+	+	+	
35<50	+	+	+	+	+	+	
20<35	2	1	2	3	2	4	
10<20	4	4	4	4	3	3	
6<10	1	1	1	1	+	+	
3<6	+	+	1	+	+	+	
1.5<3	0	+	+	+	+	0	
0<1.5	3	+	0	0	0	0	

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4670						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	1	2	5	11	41	
50<80	0	0	+	+	+	+	
35<50	+	+	+	+	+	1	
20<35	1	1	2	3	3	5	
10<20	2	3	5	4	3	2	
6<10	+	+	+	+	+	+	
3<6	0	+	+	+	+	+	
1.5<3	0	+	+	0	+	+	
0<1.5	1	0	+	0	0	+	

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3498						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	1	+	1	3	20	35	
50<80	0	0	0	0	+	1	
35<50	0	0	0	+	+	+	
20<35	+	+	+	1	5	1	
10<20	+	1	2	5	6	1	
6<10	0	+	1	2	7	+	
3<6	+	+	+	+	+	+	
1.5<3	+	0	+	0	0	0	
0<1.5	5	3	1	+	0	0	

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16011						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	1	+	+	1	10	45	
50<80	+	+	+	+	1	2	
35<50	+	+	+	+	2	1	
20<35	+	+	1	2	4	2	
10<20	+	1	1	3	4	2	
6<10	+	1	1	1	2	+	
3<6	+	+	1	1	1	+	
1.5<3	+	+	+	+	+	+	
0<1.5	3	3	1	+	+	0	

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2659						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	1	23	32	
50<80	+	+	+	+	3	3	
35<50	0	0	0	+	4	3	
20<35	+	+	+	1	6	6	
10<20	0	+	+	2	5	3	
6<10	+	+	+	1	1	+	
3<6	+	+	+	+	+	+	
1.5<3	0	0	0	0	0	0	
0<1.5	2	1	1	1	0	0	

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4150						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	3	2	1	6	31	14	
50<80	0	0	+	+	+	1	
35<50	0	0	+	+	1	+	
20<35	+	1	1	1	5	1	
10<20	1	1	1	3	4	+	
6<10	+	2	1	3	2	+	
3<6	+	+	1	+	+	0	
1.5<3	+	0	0	0	0	0	
0<1.5	6	3	+	+	0	0	

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3956						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	1	1	1	1	18	24	
50<80	+	0	+	+	1	1	
35<50	0	+	0	+	1	+	
20<35	+	+	+	1	3	1	
10<20	+	1	1	4	8	3	
6<10	1	1	2	4	7	2	
3<6	+	+	1	1	2	+	
1.5<3	0	0	+	0	0	0	
0<1.5	5	2	1	1	+	0	

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16185						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	1	10	50	
50<80	0	+	+	+	1	4	
35<50	+	0	+	+	2	3	
20<35	+	+	+	1	4	4	
10<20	+	+	+	1	3	2	
6<10	+	+	+	1	2	1	
3<6	+	+	+	1	1	+	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	1	1	+	+	

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 123						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	0	0	1	0	9	35	
50<80	0	0	0	0	0	6	
35<50	0	0	0	0	0	3	
20<35	0	0	0	1	0	10	
10<20	0	1	0	1	10	10	
6<10	0	0	0	1	6	0	
3<6	0	0	1	0	0	0	
1.5<3	0	0	0	0	0	0	
0<1.5	5	2	0	1	0	0	

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 11814						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	1	11	20	
50<80	+	+	+	+	+	1	
35<50	+	+	+	+	2	1	
20<35	1	1	1	2	10	5	
10<20	1	1	1	4	11	4	
6<10	+	1	1	4	5	1	
3<6	+	+	1	2	2	+	
1.5<3	+	+	+	+	+	0	
0<1.5	3	2	1	+	+	0	

## Nikolski

No Data Available

## St. Paul

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9069						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	1	18	7	
50<80	0	+	0	+	+	+	
35<50	0	+	+	+	1	+	
20<35	+	+	1	2	10	3	
10<20	1	1	1	5	19	2	
6<10	1	1	1	3	4	+	
3<6	1	1	1	2	1	+	
1.5<3	+	+	+	+	+	0	
0<1.5	4	2	1	+	+	0	

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 13760						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	+	16	3	
50<80	+	0	0	+	1	+	
35<50	0	0	+	+	6	1	
20<35	+	+	+	3	25	1	
10<20	+	+	1	8	17	+	
6<10	+	+	1	4	2	+	
3<6	+	+	1	1	1	0	
1.5<3	+	+	+	+	+	0	
0<1.5	2	2	2	1	+	0	

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10000						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	+	13	10	
50<80	0	0	0	+	+	+	
35<50	0	+	+	+	3	1	
20<35	+	+	+	+	2	16	6
10<20	+	1	2	5	12	2	
6<10	+	1	2	4	4	+	
3<6	+	1	2	2	1	+	
1.5<3	+	+	+	+	0	0	
0<1.5	3	2	1	+	+	0	

## Marine Area A

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2351					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	1	3	14
50<80	+	0	+	+	1	1
35<50	+	+	+	+	1	1
20<35	1	1	2	4	3	28
10<20	1	3	7	6	4	3
6<10	+	+	1	1	1	+
3<6	+	+	+	+	+	+
1.5<3	+	+	+	+	0	0
0<1.5	4	2	2	2	1	+

## Marine Area B

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4304					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	4	13
50<80	+	0	+	+	1	1
35<50	+	+	+	+	1	2
20<35	1	1	2	4	7	20
10<20	1	2	3	4	5	4
6<10	+	+	1	2	2	1
3<6	+	+	+	+	1	+
1.5<3	+	+	+	+	+	+
0<1.5	4	2	2	2	1	+

## Marine Area C

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3073					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	6	21
50<80	0	0	+	+	1	2
35<50	+	+	+	1	2	3
20<35	+	+	1	2	5	11
10<20	1	1	2	4	9	7
6<10	+	+	1	2	4	1
3<6	+	+	+	1	+	+
1.5<3	+	+	0	+	0	+
0<1.5	3	2	3	3	1	+

## Marine Area D

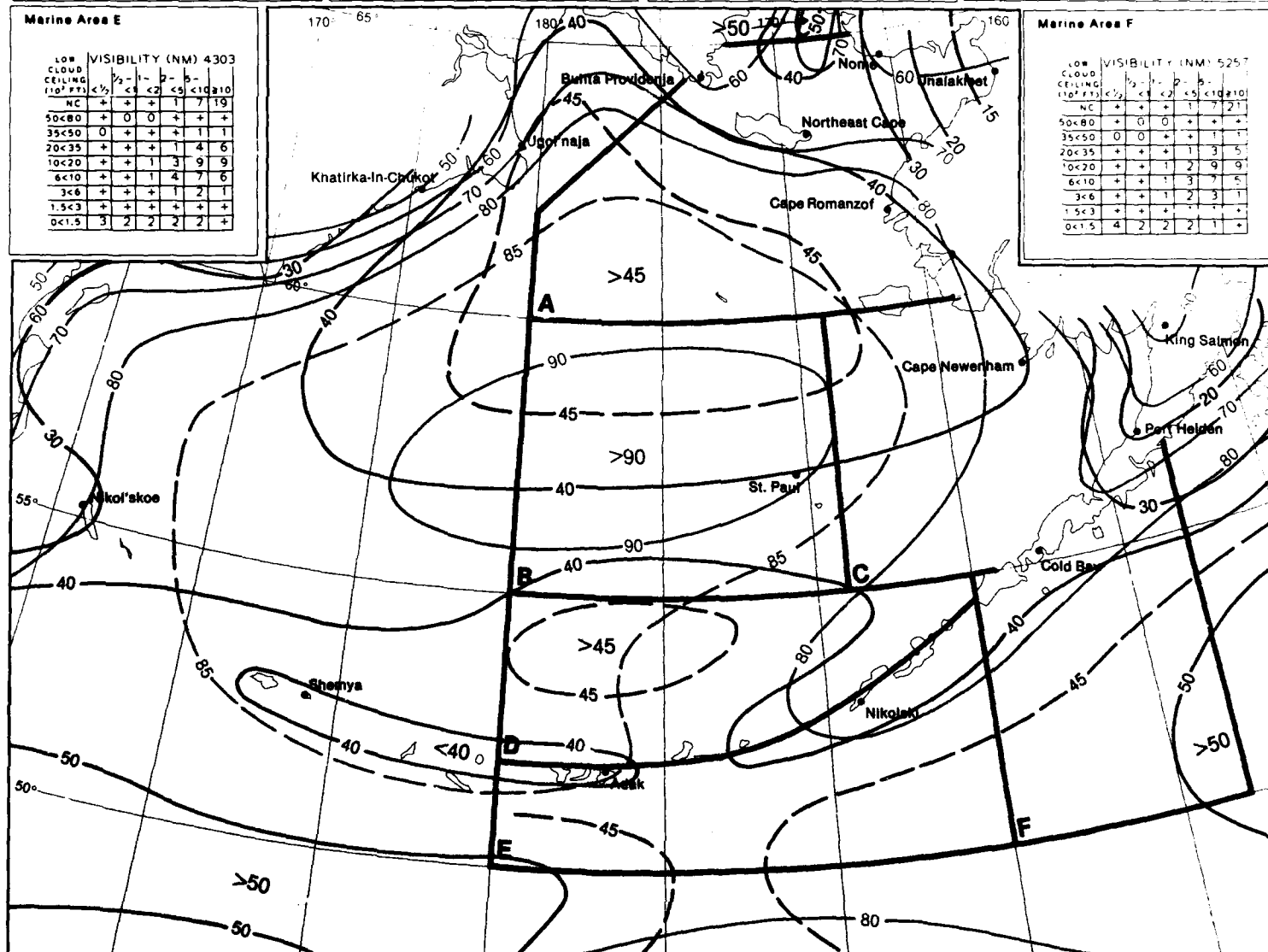
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5470					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	6	19
50<80	+	+	0	+	1	+
35<50	+	0	+	+	1	1
20<35	+	+	+	1	4	7
10<20	+	+	1	2	7	10
6<10	+	1	1	3	7	7
3<6	+	+	1	1	2	2
1.5<3	+	+	+	+	1	+
0<1.5	2	1	2	2	2	+

## Marine Area E

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4303					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	7	19
50<80	+	0	0	+	+	+
35<50	0	+	+	+	1	1
20<35	+	+	+	1	4	6
10<20	+	+	1	3	9	9
6<10	+	+	1	4	7	6
3<6	+	+	+	1	2	1
1.5<3	+	+	+	+	+	+
0<1.5	3	2	2	2	2	+

## Marine Area F

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5257					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	7	21
50<80	+	0	0	+	+	+
35<50	0	0	+	+	1	1
20<35	+	+	+	1	3	5
10<20	+	+	1	2	9	9
6<10	+	+	1	3	7	6
3<6	+	+	1	2	3	1
1.5<3	+	+	+	+	+	+
0<1.5	4	2	2	2	1	+



4 Ceiling and Visibility (mid range)

January

## Nikel'tskoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5419					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	1	4 25
50<80	+	+	0	+	+	+
35<50	0	0	+	+	+	1
20<35	1	1	1	3	5	11
10<20	4	5	4	7	7	16
6<10	+	+	+	+	+	+
3<6	+	+	+	+	+	+
1.5<3	0	+	+	+	0	+
0<1.5	1	+	+	+	0	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3233					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	2	1	2	3	4	6 3
50<80	0	0	0	0	+	+
35<50	0	0	+	+	+	3
20<35	1	+	2	3	1	3
10<20	1	1	2	2	1	1
6<10	1	+	+	1	+	+
3<6	+	+	+	+	0	0
1.5<3	0	0	0	0	0	0
0<1.5	1	0	0	0	0	0

## Ugol'naja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4802					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	5	3	5	7	8	41
50<80	+	0	+	0	+	+
35<50	+	+	+	+	+	+
20<35	1	1	1	1	1	2
10<20	3	2	3	3	2	1
6<10	1	+	1	1	+	+
3<6	+	+	+	+	+	+
1.5<3	+	+	+	+	+	+
0<1.5	2	+	0	+	+	0

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4316					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	1	1	4	11	55
50<80	+	+	0	+	+	+
35<50	0	+	+	+	+	1
20<35	+	1	2	3	2	3
10<20	2	2	3	3	2	1
6<10	+	+	+	+	+	+
3<6	+	+	+	+	+	0
1.5<3	0	+	0	0	0	0
0<1.5	1	+	+	0	0	0

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3698					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	2	18	38
50<80	0	0	+	+	+	1
35<50	0	0	+	+	1	+
20<35	+	+	+	1	3	1
10<20	+	1	2	5	7	2
6<10	+	1	1	2	2	+
3<6	0	+	+	+	+	0
1.5<3	0	0	0	0	+	0
0<1.5	4	2	1	+	0	0

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14734					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	9	52
50<80	+	+	+	+	1	2
35<50	+	+	+	+	1	2
20<35	+	+	1	2	3	2
10<20	+	1	1	3	4	2
6<10	+	+	1	2	1	+
3<6	+	+	1	1	+	+
1.5<3	+	+	+	+	+	0
0<1.5	2	2	1	+	+	0

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2192					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	20	43
50<80	0	0	+	+	2	3
35<50	+	+	+	+	2	3
20<35	+	+	+	1	4	5
10<20	+	+	+	1	3	3
6<10	0	+	+	1	1	+
3<6	0	+	+	+	+	+
1.5<3	0	0	0	+	0	+
0<1.5	2	2	1	+	0	0

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3883					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	2	2	2	4	31	15
50<80	+	1	+	+	1	1
35<50	0	+	0	+	1	+
20<35	1	1	+	1	7	1
10<20	1	1	1	4	5	1
6<10	+	2	1	2	2	+
3<6	+	+	+	+	+	0
1.5<3	0	0	+	0	0	0
0<1.5	5	3	+	+	0	0

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 384					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	1	16	24
50<80	0	0	+	+	+	1
35<50	0	0	0	+	1	1
20<35	+	+	+	1	4	2
10<20	+	1	1	3	7	5
6<10	+	1	3	6	6	3
3<6	1	1	1	2	1	+
1.5<3	0	+	+	+	0	0
0<1.5	3	2	1	1	+	+

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14871					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	8	50
50<80	+	+	+	+	2	5
35<50	0	+	+	+	2	3
20<35	+	+	+	2	4	5
10<20	+	+	1	1	3	2
6<10	+	+	+	1	1	1
3<6	+	+	+	1	1	+
1.5<3	+	+	+	+	+	0
0<1.5	1	1	1	1	+	0

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 109					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	1	0	0	1	11 38
50<80	0	0	0	0	0	2
35<50	0	0	0	0	0	3
20<35	0	0	0	2	3	14
10<20	0	1	0	2	6	6
6<10	0	0	1	2	2	0
3<6	0	0	0	0	0	0
1.5<3	0	0	0	0	0	0
0<1.5	5	1	1	1	0	0

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10760					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	9	20
50<80	+	0	+	+	+	1
35<50	0	+	+	+	1	1
20<35	+	1	1	3	8	5
10<20	1	1	1	4	11	5
6<10	+	+	1	2	5	1
3<6	+	1	1	2	2	+
1.5<3	+	+	+	+	+	+
0<1.5	3	2	1	+	+	0

## Nikel'ski

No Data Available

## St. Paul

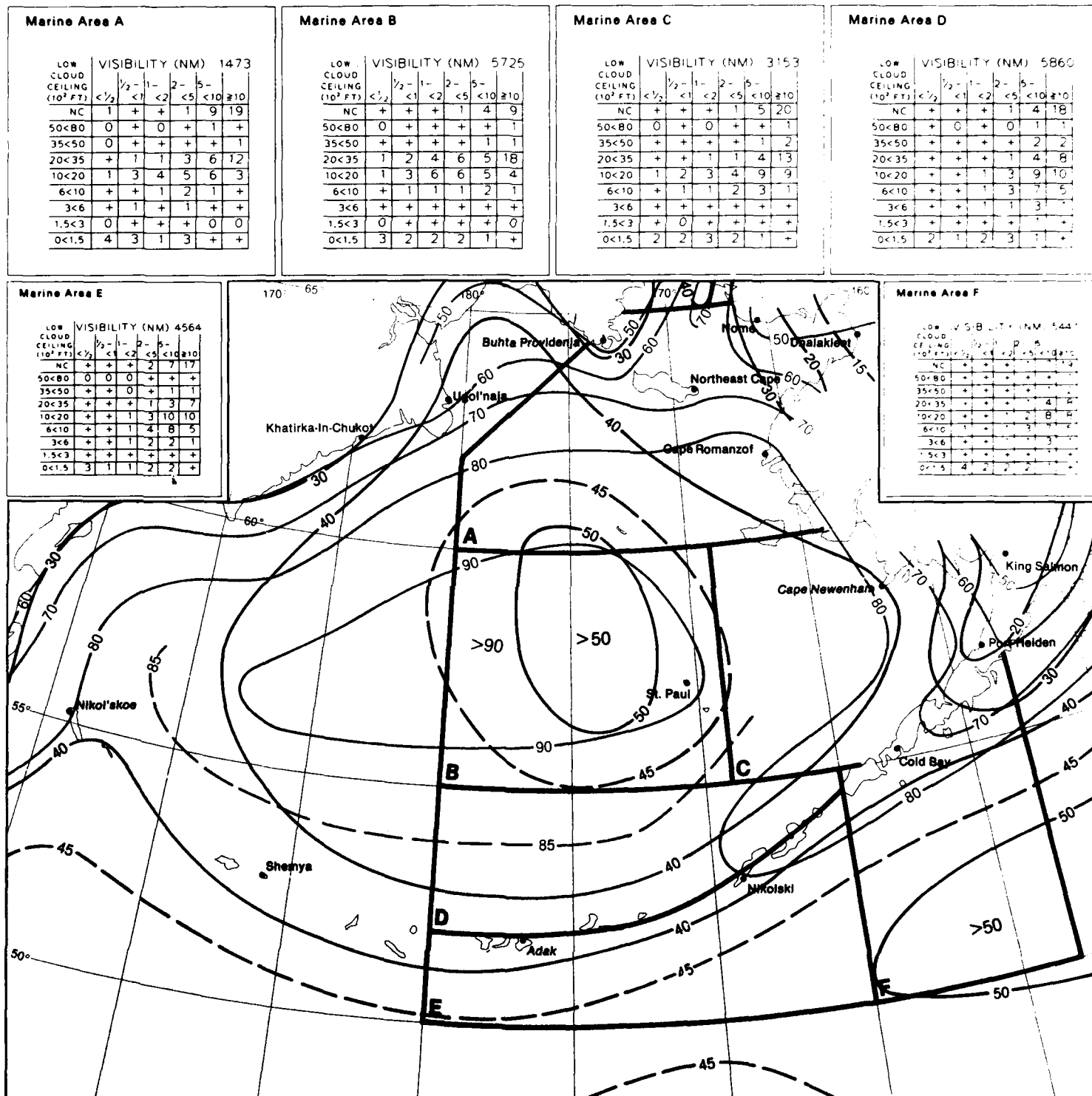
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 8596					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	1	1	18	7
50<80	+	0	+	+	+	+
35<50	0	0	+	+	1	+
20<35	1	+	+	2	7	2
10<20	3	2	2	7	18	2
6<10	1	1	1	2	5	+
3<6	1	1	1	1	1	+
1.5<3	+	+	+	+	+	0
0<1.5	5	1	+	+	0	0

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 12622					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	16	3
50<80	0	0	0	+	1	+
35<50	0	+	+	+	5	1
20<35	+	+	+	3	27	2
10<20	+	+	1	9	16	+
6<10	+	+	1	3	2	+
3<6	+	+	+	+	+	0
1.5<3	0	+	+	+	0	0
0<1.5	2	2	2	1	+	+

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9339					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	10	11
50<80	0	+	0	+	+	+
35<50	+	0	+	+	2	2
20<35	+	+	1	3	18	8
10<20	1	2	2	6	12	2
6<10	+	1	2	3	2	+
3<6	+	1	1	1	+	+
1.5<3	+	+	+	0	0	0
0<1.5	4	2	1	+	+	+



## Nikol'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5966						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	+	1	4	27
50<80	0	0	+	0	+	+	+
35<50	0	+	+	+	+	+	1
20<35	+	1	1	3	4	11	
10<20	3	4	7	7	7	16	
6<10	+	+	+	+	1	+	+
3<6	+	+	+	+	+	0	+
1.5<3	0	0	0	0	0	0	0
0<1.5	+	+	0	0	0	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4054						
	<1/2	1/2	1	2	5	>10	≥10
NC	1	1	2	3	3	68	
50<80	0	0	0	0	+	+	+
35<50	0	0	+	+	+	+	1
20<35	1	1	1	2	1	3	
10<20	1	1	1	1	1	2	
6<10	+	+	+	+	+	+	+
3<6	+	+	+	+	+	+	+
1.5<3	+	0	+	+	+	0	+
0<1.5	+	0	0	+	0	0	0

## Ugol'neja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5261						
	<1/2	1/2	1	2	5	>10	≥10
NC	4	3	5	7	8	46	
50<80	+	+	+	+	+	+	+
35<50	+	+	+	+	+	+	+
20<35	1	1	1	1	1	2	
10<20	3	2	2	3	2	2	
6<10	+	+	+	1	1	+	+
3<6	+	+	+	+	+	+	0
1.5<3	+	0	+	+	+	+	+
0<1.5	2	+	+	+	+	+	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4868						
	<1/2	1/2	1	2	5	>10	≥10
NC	1	+	2	4	9	57	
50<80	+	0	+	+	+	+	+
35<50	+	0	+	+	+	+	1
20<35	+	1	1	2	2	3	
10<20	3	2	3	3	2	1	
6<10	+	+	+	+	+	+	+
3<6	0	+	+	+	+	0	0
1.5<3	0	0	+	+	+	0	0
0<1.5	+	0	0	+	0	0	0

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3867						
	<1/2	1/2	1	2	5	>10	≥10
NC	1	1	1	3	17	33	
50<80	+	+	0	+	+	1	1
35<50	0	+	+	+	+	+	+
20<35	+	+	+	1	2	1	
10<20	+	+	2	5	8	2	
6<10	1	1	2	2	2	+	
3<6	+	+	+	+	+	0	
1.5<3	0	0	0	0	0	0	0
0<1.5	6	3	1	+	0	0	

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16143						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	1	7	53	
50<80	+	+	+	+	1	2	
35<50	+	+	+	+	1	2	
20<35	+	+	+	2	3	2	
10<20	+	1	1	3	4	1	
6<10	+	+	1	2	1	+	
3<6	+	+	1	1	1	+	
1.5<3	+	+	+	+	+	0	
0<1.5	2	1	1	+	+	0	

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2353						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	1	18	45	
50<80	0	+	+	+	1	3	
35<50	0	0	0	+	1	3	
20<35	+	+	+	1	3	6	
10<20	+	+	+	2	3	3	
6<10	0	+	+	1	2	1	
3<6	+	+	+	+	+	+	
1.5<3	0	0	0	+	+	+	
0<1.5	1	1	1	+	+	0	

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4356						
	<1/2	1/2	1	2	5	>10	≥10
NC	1	3	2	4	26	16	
50<80	+	+	+	+	2	+	
35<50	0	+	+	+	1	+	
20<35	1	1	+	1	5	1	
10<20	1	1	1	3	3	+	
6<10	1	3	2	3	2	+	
3<6	+	1	1	1	1	0	
1.5<3	0	0	0	0	0	0	
0<1.5	7	4	+	+	0	0	

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4327						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	1	15	24	
50<80	0	+	0	+	1	1	
35<50	0	0	0	0	+	1	
20<35	+	+	+	+	2	2	
10<20	+	+	1	3	8	4	
6<10	+	2	2	4	7	2	
3<6	+	1	1	2	2	+	
1.5<3	+	0	+	+	+	0	
0<1.5	8	2	2	1	+	0	

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16774						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	+	6	52	
50<80	0	+	+	+	1	4	
35<50	+	0	+	+	2	3	
20<35	+	+	+	1	4	5	
10<20	+	+	1	2	4	3	
6<10	+	+	1	1	2	1	
3<6	+	+	+	1	1	+	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	1	+	+	+	

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 134						
	<1/2	1/2	1	2	5	>10	≥10
NC	0	0	0	4	4	42	
50<80	0	0	0	0	0	4	
35<50	0	0	0	0	0	5	
20<35	0	1	0	0	3	8	
10<20	0	0	0	1	6	13	
6<10	0	0	1	1	1	1	
3<6	0	0	0	0	0	0	
1.5<3	0	0	0	0	0	0	
0<1.5	1	2	1	0	0	0	

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 12337						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	+	1	10	22
50<80	0	+	+	+	+	+	+
35<50	+	+	+	+	+	+	+
20<35	+	+	1	2	8	6	
10<20	+	1	2	4	11	5	
6<10	+	1	1	3	5	1	
3<6	+	+	1	2	2	+	
1.5<3	+	+	+	+	+	+	
0<1.5	2	1	1	+	+	2	

## Nikolski

No Data Available

## St. Paul

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9589						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	1	18	11	
50<80	+	0	0	+	+	+	
35<50	+	+	0	+	+	1	
20<35	+	+	+	1	6	3	
10<20	2	2	2	5	15	3	
6<10	1	2	1	3	5	+	
3<6	1	1	1	2	2	+	
1.5<3	+	+	+	+	+	0	
0<1.5	5	1	+	+	0	0	

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14073						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	1	13	4	
50<80	0	0	0	+	+	+	
35<50	0	0	+	+	5	1	
20<35	+	+	+	3	28	1	
10<20	+	+	1	9	17	+	
6<10	+	+	1	4	3	+	
3<6	+	+	+	1	+	0	
1.5<3	0	+	+	+	0	0	
0<1.5	2	2	2	1	+	0	

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10525						
	<1/2	1/2	1	2	5	>10	≥10
NC	+	+	+	+	1	10	10
50<80	0	+	0	+	+	+	
35<50	+	0	+	+	2	1	
20<35	+	+	+	2	18	10	
10<20	+	1	2	6	11	2	
6<10	+	1	3	3	2	+	
3<6	+	1	1	1	+	+	
1.5<3	+	+	+	+	+	0	
0<1.5	3	2	1	+	0	0	

## Marine Area A

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 1198					
	$\frac{1}{2}$	1	2	5	10	$\geq 10$
NC	+	+	1	2	20	24
50<80	0	+	+	+	1	1
35<50	0	+	0	+	+	1
20<35	1	+	+	1	2	4
10<20	1	1	1	3	4	4
6<10	2	1	2	3	3	1
3<6	2	1	1	1	1	+
1.5<3	1	+	0	+	0	+
0<1.5	6	2	1	1	+	0

## Marine Area B

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5044					
	$\frac{1}{2}$	1	2	5	10	$\geq 10$
NC	+	+	+	1	4	12
50<80	+	+	+	+	1	1
35<50	+	+	+	+	1	1
20<35	1	1	2	4	6	16
10<20	1	1	4	6	9	7
6<10	+	1	1	2	3	1
3<6	+	+	+	1	+	+
1.5<3	+	+	+	+	+	+
0<1.5	4	1	1	2	+	+

## Marine Area C

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4230					
	$\frac{1}{2}$	1	2	5	10	$\geq 10$
NC	+	+	+	+	7	21
50<80	0	0	0	+	+	+
35<50	+	+	+	+	+	2
20<35	+	+	+	4	10	10
10<20	+	1	2	4	10	9
6<10	+	1	2	2	5	2
3<6	+	+	+	+	+	+
1.5<3	0	0	+	+	+	0
0<1.5	5	1	1	2	+	+

## Marine Area D

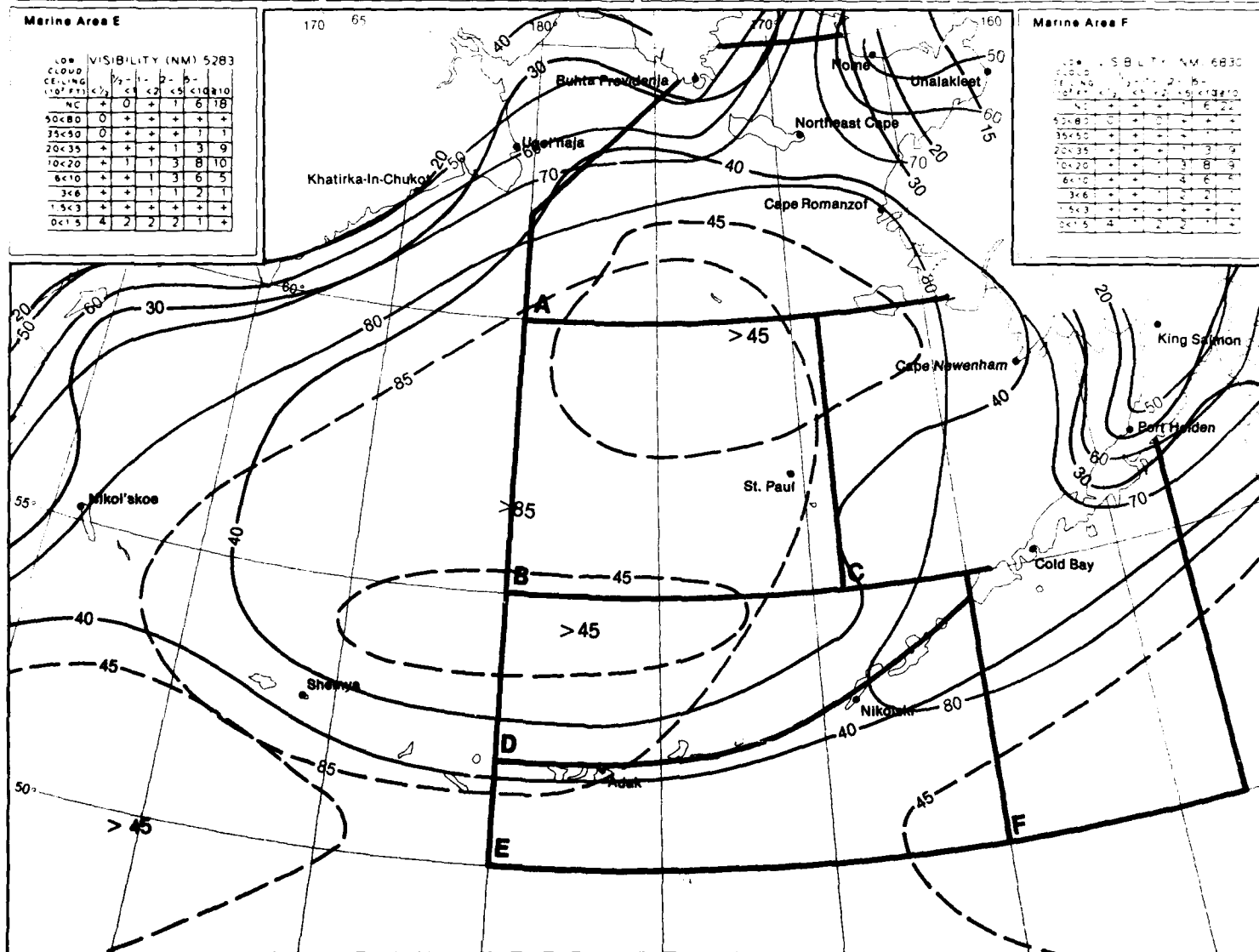
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 7122					
	$\frac{1}{2}$	1	2	5	10	$\geq 10$
NC	+	+	+	1	5	17
50<80	0	0	0	+	1	1
35<50	+	0	+	+	1	2
20<35	+	+	+	1	4	9
10<20	+	+	+	3	9	0
6<10	+	+	+	3	9	5
3<6	+	+	+	2	2	+
1.5<3	+	+	+	+	+	+
0<1.5	2	+	2	2	+	+

## Marine Area E

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5283					
	$\frac{1}{2}$	1	2	5	10	$\geq 10$
NC	+	+	+	1	6	18
50<80	0	+	+	+	+	+
35<50	0	+	+	+	1	1
20<35	+	+	+	1	3	9
10<20	+	+	1	3	8	10
6<10	+	+	1	3	6	5
3<6	+	+	1	1	2	1
1.5<3	+	+	+	+	+	+
0<1.5	4	2	2	2	1	+

## Marine Area F

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 6830					
	$\frac{1}{2}$	1	2	5	10	$\geq 10$
NC	+	+	+	1	6	21
50<80	0	+	+	+	+	+
35<50	+	+	+	+	+	+
20<35	+	+	+	1	3	9
10<20	+	+	+	3	8	9
6<10	+	+	+	4	6	2
3<6	+	+	+	2	2	+
1.5<3	+	+	+	+	+	+
0<1.5	4	+	2	2	+	+



4 Ceiling and Visibility (mid range)

March

## Nikel'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5553						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	+	+	29
50<80	+	+	+	+	+	+	+
35<50	+	+	0	+	+	+	1
20<35	+	+	1	2	3	16	+
10<20	1	2	3	7	7	17	+
6<10	+	+	1	1	1	+	+
3<6	+	+	+	+	+	+	+
1.5<3	+	+	+	+	+	0	+
0<1.5	2	+	+	+	0	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3772						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	1	1	2	2	64	+
50<80	0	+	+	0	+	+	+
35<50	+	+	+	+	1	4	+
20<35	1	1	1	2	1	5	+
10<20	1	1	2	2	2	2	+
6<10	+	+	+	1	+	+	+
3<6	+	0	+	+	0	+	+
1.5<3	+	0	+	+	+	+	+
0<1.5	1	+	0	0	0	+	+

## Ugol'neje

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5158						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	2	1	2	4	6	54	+
50<80	+	+	+	+	+	+	+
35<50	0	+	0	+	+	1	+
20<35	1	1	1	1	1	4	+
10<20	2	2	3	3	3	3	+
6<10	+	+	1	1	1	1	+
3<6	+	+	+	+	+	+	+
1.5<3	0	0	+	+	+	+	+
0<1.5	1	+	+	0	0	+	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4649						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	1	2	7	55	+
50<80	0	0	+	+	+	+	+
35<50	0	+	+	+	+	+	1
20<35	+	+	1	2	3	6	+
10<20	1	2	3	4	3	3	+
6<10	+	+	+	+	+	+	+
3<6	+	+	+	+	0	+	+
1.5<3	0	+	+	+	0	0	+
0<1.5	+	0	0	+	0	+	+

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4198						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	1	1	3	11	30	+
50<80	0	+	+	0	0	+	+
35<50	0	+	0	+	+	+	+
20<35	+	+	+	1	2	1	+
10<20	+	1	3	5	8	5	+
6<10	1	1	3	3	5	2	+
3<6	+	1	1	1	1	+	+
1.5<3	+	+	+	0	+	0	+
0<1.5	4	2	1	+	+	+	+

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 15680						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	5	53	+
50<80	+	+	+	+	+	2	+
35<50	+	+	+	+	1	2	+
20<35	+	+	+	1	3	3	+
10<20	+	+	1	3	4	2	+
6<10	+	1	1	3	2	+	+
3<6	+	1	1	2	1	+	+
1.5<3	+	+	+	+	+	+	+
0<1.5	1	2	1	+	+	+	+

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2426						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	7	49	+
50<80	0	0	0	+	+	4	+
35<50	0	0	+	+	1	4	+
20<35	+	+	+	1	2	8	+
10<20	+	+	+	2	3	6	+
6<10	0	+	+	1	1	2	+
3<6	+	0	+	+	+	+	+
1.5<3	0	0	0	0	+	0	+
0<1.5	1	2	1	1	0	0	+

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4886						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	1	2	1	4	23	17	+
50<80	+	+	+	+	+	1	+
35<50	+	+	0	+	+	1	+
20<35	+	+	+	2	5	2	+
10<20	+	1	1	4	6	1	+
6<10	+	1	2	3	5	1	+
3<6	+	1	1	1	1	0	+
1.5<3	+	0	+	0	+	0	+
0<1.5	6	2	1	+	0	0	+

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4301						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	1	+	+	1	15	20	+
50<80	+	+	+	0	+	+	+
35<50	+	+	0	0	+	+	+
20<35	0	+	+	1	2	2	+
10<20	0	+	+	3	7	5	+
6<10	+	1	2	6	9	3	+
3<6	+	+	1	3	3	1	+
1.5<3	0	0	+	+	+	+	+
0<1.5	6	3	2	1	0	0	+

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16296						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	4	49	+
50<80	+	0	0	+	1	4	+
35<50	+	+	+	+	1	4	+
20<35	+	+	+	1	4	9	+
10<20	+	+	1	2	5	5	+
6<10	+	+	1	1	2	1	+
3<6	+	+	+	1	1	+	+
1.5<3	+	+	+	+	+	+	+
0<1.5	1	1	1	+	+	+	+

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 157						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	0	1	1	1	1	39	+
50<80	0	0	0	0	0	4	+
35<50	0	0	0	0	0	4	+
20<35	0	0	0	0	1	17	+
10<20	0	1	0	0	5	9	+
6<10	0	0	0	4	3	1	+
3<6	0	0	1	1	1	0	+
1.5<3	0	0	0	0	0	0	+
0<1.5	4	2	1	1	0	0	+

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 11940						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	6	14	+
50<80	0	0	0	+	+	+	+
35<50	0	+	+	+	1	1	+
20<35	+	+	+	1	7	8	+
10<20	+	+	1	5	13	9	+
6<10	+	+	1	5	8	2	+
3<6	+	+	1	3	2	+	+
1.5<3	+	+	+	+	+	+	+
0<1.5	1	1	1	+	+	0	+

## Nikolski

No Data Available

## St. Paul

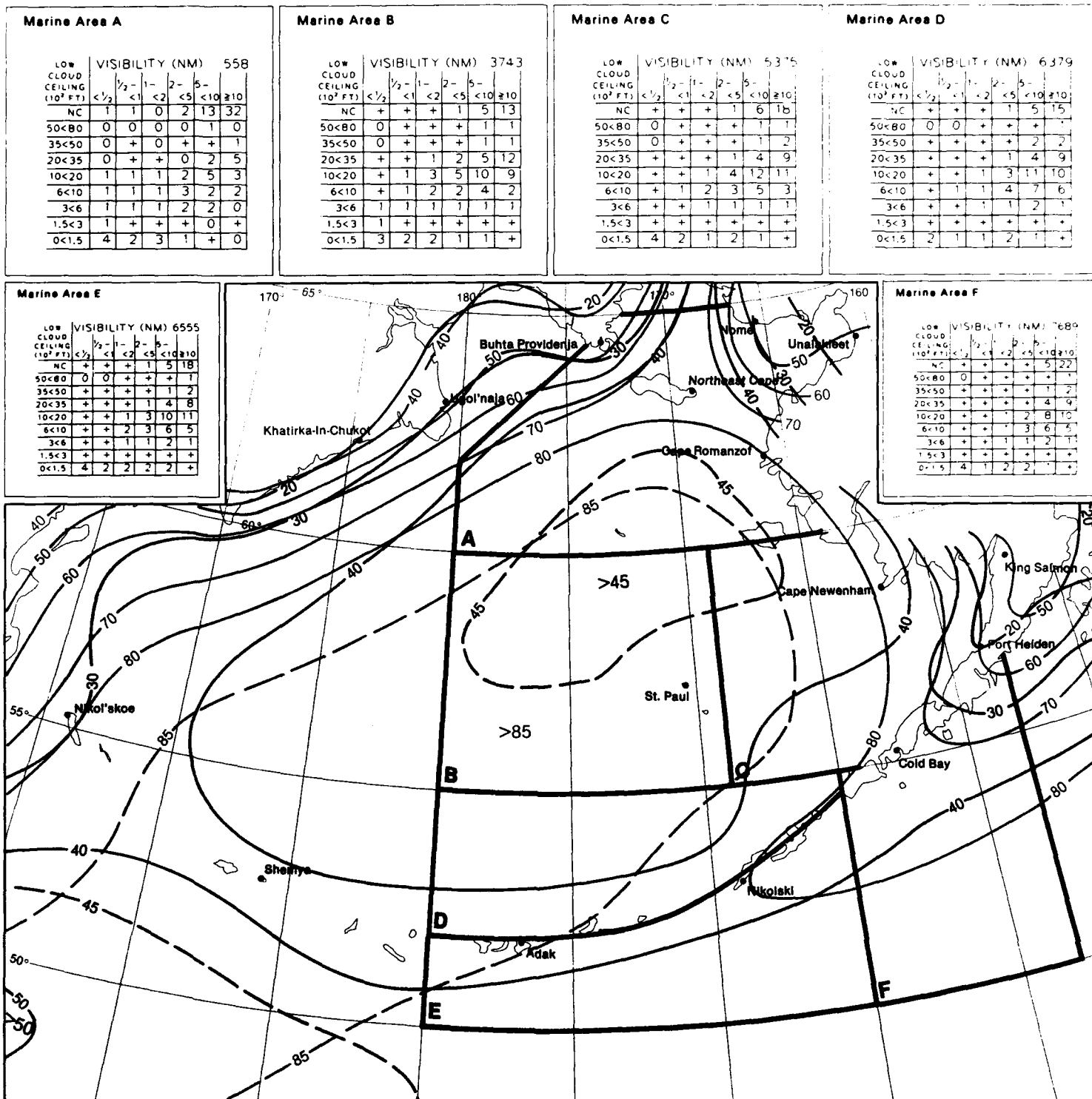
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9455						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	14	9	+
50<80	0	0	+	+	+	+	+
35<50	0	0	+	+	1	1	+
20<35	+	+	+	1	7	4	+
10<20	1	1	2	5	18	5	+
6<10	1	1	1	3	5	1	+
3<6	+	1	2	3	3	+	+
1.5<3	+	+	+	+	+	+	+
0<1.5	4	1	+	+	+	+	+

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 13735						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	10	3	+
50<80	0	0	0	+	+	+	+
35<50	0	+	0	+	5	1	+
20<35	0	+	+	2	31	2	+
10<20	+	+	1	9	20	1	+
6<10	+	+	1	4	2	+	+
3<6	+	+	+	1	+	+	+
1.5<3	0	+	+	+	+	0	+
0<1.5	1	1	1	1	+	0	+

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10142						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	8	10	+
50<80	0	0	0	+	+	+	+
35<50	0	+	0	+	2	2	+
20<35	+	+	+	1	13	12	+
10<20	+	1	1	5	15	4	+
6<10	+	1	2	4	3	+	+
3<6	+	2	2	2	1	+	+
1.5<3	+	+	+	+	+	0	+
0<1.5	3	2	1	+	0	+	+



4 Ceiling and Visibility (mid range)

April



## Nikol'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5645						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	+	1	21
50<80	0	+	0	+	+	+	+
35<50	0	0	+	+	+	+	2
20<35	+	+	+	+	1	3	15
10<20	+	+	1	5	9	22	
6<10	+	+	+	2	2	3	
3<6	+	+	+	1	1	1	
1.5<3	0	+	0	+	+	+	+
0<1.5	8	+	+	+	+	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3465						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	1	+	+	1	1	4	7
50<80	0	0	0	0	0	+	+
35<50	0	+	0	+	1	7	
20<35	+	+	1	2	2	9	
10<20	+	+	2	3	3	4	
6<10	+	+	1	2	1	+	
3<6	+	+	1	+	+	+	
1.5<3	+	+	+	+	+	+	+
0<1.5	7	+	0	0	0	+	

## Ugol'neje

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5031						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	1	+	1	1	2	4	3
50<80	0	0	0	+	+	+	
35<50	+	0	0	+	+	2	
20<35	+	+	+	1	2	9	
10<20	1	1	3	4	4	9	
6<10	+	+	1	2	2	2	
3<6	0	+	+	1	1	1	
1.5<3	0	+	+	+	+	+	+
0<1.5	4	+	+	+	+	+	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4680						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	3	4	2
50<80	0	0	+	+	+	+	+
35<50	+	0	+	+	+	+	2
20<35	+	+	+	2	3	10	
10<20	+	1	3	6	6	9	
6<10	+	+	1	2	1	1	
3<6	+	+	1	1	1	+	
1.5<3	0	+	+	+	0	+	
0<1.5	2	+	+	0	0	+	

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4679						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	4	25	
50<80	0	0	0	+	+	1	
35<50	0	0	+	+	+	+	
20<35	+	+	+	+	1	4	
10<20	+	+	+	2	8	12	
6<10	+	1	3	3	8	6	
3<6	+	1	3	3	4	1	
1.5<3	0	0	+	+	+	0	
0<1.5	3	2	1	+	0	0	

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 15788						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	1	5	3
50<80	+	+	0	+	+	5	
35<50	0	+	0	+	+	4	
20<35	+	+	+	+	2	6	
10<20	+	+	+	1	4	4	
6<10	+	+	1	2	3	2	
3<6	+	1	1	2	2	1	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	1	+	+	0	

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2700						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	1	5	2
50<80	0	0	0	+	+	4	
35<50	0	0	0	0	1	8	
20<35	0	0	+	+	1	11	
10<20	0	0	+	1	1	6	
6<10	0	0	+	1	1	3	
3<6	+	+	+	1	2	2	
1.5<3	0	+	+	+	+	+	
0<1.5	1	1	+	+	+	+	

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5104						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	18	20	
50<80	0	+	+	+	2	1	
35<50	0	0	0	+	1	1	
20<35	+	+	+	1	8	5	
10<20	+	+	1	3	8	3	
6<10	+	+	2	3	4	1	
3<6	+	1	2	2	2	+	
1.5<3	+	+	+	+	+	+	
0<1.5	3	2	+	+	0	0	

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4495						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	13	19	
50<80	+	+	+	+	1	1	
35<50	0	0	0	0	+	1	
20<35	+	0	0	+	2	4	
10<20	0	+	1	2	6	7	
6<10	+	1	2	4	7	5	
3<6	0	+	2	3	3	1	
1.5<3	+	+	+	+	+	+	
0<1.5	5	3	2	1	+	0	

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16705						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	2	45	
50<80	+	0	0	+	+	6	
35<50	+	+	0	+	1	8	
20<35	+	+	+	+	3	13	
10<20	+	+	+	1	4	6	
6<10	+	+	+	1	3	1	
3<6	+	+	+	1	1	+	
1.5<3	+	+	+	+	+	+	
0<1.5	1	+	+	+	+	+	

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 128						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	0	0	3	2	4	6	3
50<80	0	0	0	0	0	2	
35<50	0	0	0	0	0	4	
20<35	0	0	0	0	0	7	
10<20	0	0	0	0	1	5	
6<10	0	1	0	1	3	1	
3<6	0	0	0	1	0	0	
1.5<3	0	0	0	0	0	0	
0<1.5	2	1	0	0	0	1	

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 11627						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	4	17	
50<80	0	0	0	0	+	+	
35<50	0	+	+	+	1	2	
20<35	+	+	+	+	5	10	
10<20	+	+	+	2	13	12	
6<10	+	+	1	4	11	4	
3<6	+	+	1	4	4	1	
1.5<3	+	+	+	+	+	+	
0<1.5	1	+	+	+	+	0	

## Nikolski

No Data Available

## St. Paul

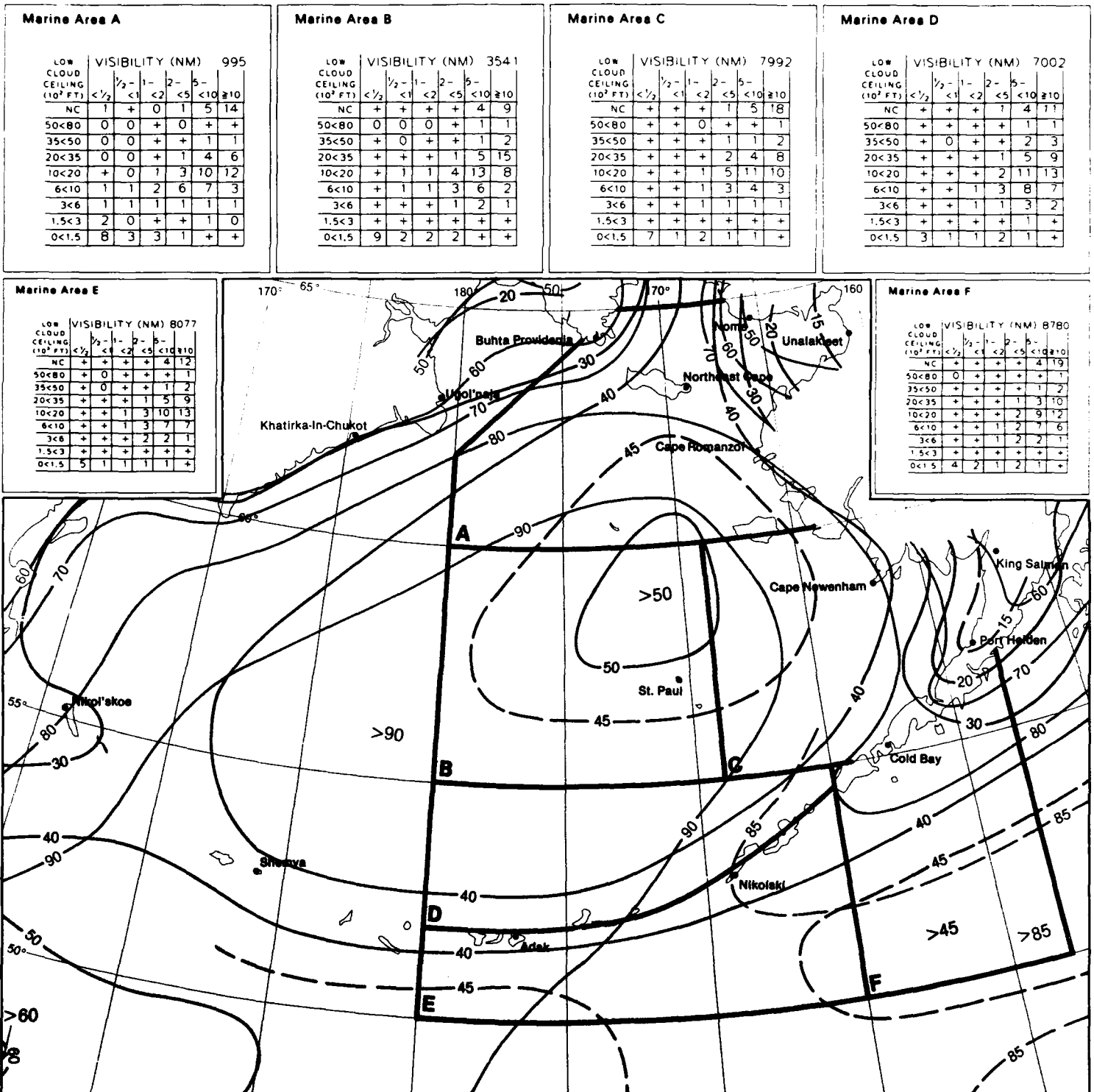
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9221						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	1	9	8	
50<80	+	0	+	+	+	+	
35<50	+	0	0	+	1	1	
20<35	+	+	+	+	6	4	
10<20	+	+	+	2	16	6	
6<10	+	+	1	3	7	1	
3<6	+	2	3	6	7	1	
1.5<3	+	1	1	1	+	+	
0<1.5	6	3	1	+	+	0	

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14156						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	0	+	+	7	3	
50<80	0	0	0	0	+	+	
35<50	0	0	0	+	3	1	
20<35	0	+	+	1	21	2	
10<20	+	+	1	10	32	1	
6<10	0	+	1	6	6	+	
3<6	0	+	1	2	1	+	
1.5<3	+	+	+	+	+	0	
0<1.5	+	+	1	1	+	0	

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10380						
	<1/2	1/2-1	1-2	2-5	5-10	10-20	≥20
NC	+	+	+	+	5	6	
50<80	+	0	0	+	+	+	
35<50	0	0	0	+	1	1	
20<35	+	+	+	+	6	9	
10<20	+	+	+	4	17	10	
6<10	+	+	2	5	9	1	
3<6	+	2	3	4	2	+	
1.5<3	+	1	+	+	+	0	
0<1.5	6	3	1	+	+	0	



4 Ceiling and Visibility (mid range)

May

## Nikel'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5425					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	0	+	1	18
50<80	0	0	0	+	+	+
35<50	0	0	+	+	+	1
20<35	+	0	+	+	1	12
10<20	+	+	+	2	8	19
6<10	+	+	+	3	4	4
3<6	+	+	+	2	2	2
1.5<3	0	0	+	+	+	+
0<1.5	16	+	+	+	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3392					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	+	1	37
50<80	0	0	0	+	0	+
35<50	+	0	0	+	+	10
20<35	+	0	+	+	1	10
10<20	0	+	1	3	3	5
6<10	+	+	1	3	2	2
3<6	+	+	1	1	1	1
1.5<3	+	+	+	+	+	+
0<1.5	15	+	0	0	0	+

## Ugol'naja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4873					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	2	52
50<80	+	0	0	0	+	+
35<50	+	0	0	+	+	3
20<35	+	+	+	+	+	8
10<20	+	+	+	1	2	7
6<10	+	+	+	1	2	3
3<6	+	+	+	1	2	1
1.5<3	0	+	+	+	+	+
0<1.5	9	+	+	+	0	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4476					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	2	2	1	40
50<80	0	0	0	+	+	1
35<50	0	0	+	+	+	2
20<35	0	+	+	+	1	7
10<20	+	+	2	4	5	8
6<10	+	+	2	3	1	2
3<6	+	1	3	2	1	+
1.5<3	+	+	1	+	+	+
0<1.5	5	+	+	+	0	+

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4480					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	1	+	1	5	26
50<80	0	+	+	+	+	2
35<50	0	+	0	+	+	2
20<35	+	+	+	+	1	4
10<20	+	+	+	2	7	11
6<10	+	+	1	3	8	4
3<6	+	1	2	3	4	1
1.5<3	+	+	+	+	+	+
0<1.5	6	1	1	+	0	0

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 15898					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	1	53
50<80	+	+	0	+	+	4
35<50	+	0	+	+	+	3
20<35	+	+	+	+	1	5
10<20	+	+	+	1	3	5
6<10	+	+	1	2	4	2
3<6	+	1	2	3	3	1
1.5<3	+	+	+	+	+	+
0<1.5	2	1	+	+	+	+

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2573					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	41
50<80	0	0	0	0	+	5
35<50	0	+	0	0	+	8
20<35	+	0	0	0	1	13
10<20	0	+	+	+	1	11
6<10	0	+	+	+	2	5
3<6	+	+	+	1	2	2
1.5<3	0	+	+	+	+	+
0<1.5	2	1	+	1	+	+

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4996					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	1	+	2	14	16
50<80	0	0	0	+	1	1
35<50	0	0	0	0	1	1
20<35	0	+	+	1	4	5
10<20	0	+	+	2	9	4
6<10	0	+	1	4	9	3
3<6	0	1	1	3	5	1
1.5<3	0	+	+	+	+	0
0<1.5	5	3	1	+	+	0

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4431					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	1	1	2	8	20
50<80	+	+	+	+	+	1
35<50	0	+	0	0	+	1
20<35	+	0	+	+	2	3
10<20	+	+	1	2	4	5
6<10	0	+	1	3	6	7
3<6	+	+	2	5	7	3
1.5<3	0	+	+	+	+	+
0<1.5	8	2	2	1	+	0

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16181					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	2	40
50<80	+	+	+	+	+	5
35<50	+	0	+	+	1	8
20<35	+	+	0	+	2	13
10<20	+	+	+	+	3	8
6<10	+	+	+	1	3	3
3<6	+	+	+	2	2	1
1.5<3	+	+	+	+	+	+
0<1.5	1	1	+	+	+	0

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 136					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	1	0	4	3	57
50<80	0	0	0	0	0	4
35<50	0	0	0	0	0	4
20<35	0	0	0	0	0	13
10<20	0	0	0	0	1	5
6<10	0	0	0	1	1	1
3<6	0	0	1	0	1	0
1.5<3	0	0	0	0	0	0
0<1.5	1	1	0	0	0	0

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 11236					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	3	16
50<80	0	0	0	+	+	1
35<50	0	0	0	0	+	2
20<35	+	+	+	+	2	9
10<20	0	+	+	1	9	16
6<10	+	+	+	3	13	6
3<6	+	+	2	5	7	1
1.5<3	+	+	+	+	+	+
0<1.5	1	1	+	+	+	0

## Nikolski

No Data Available

## St. Paul

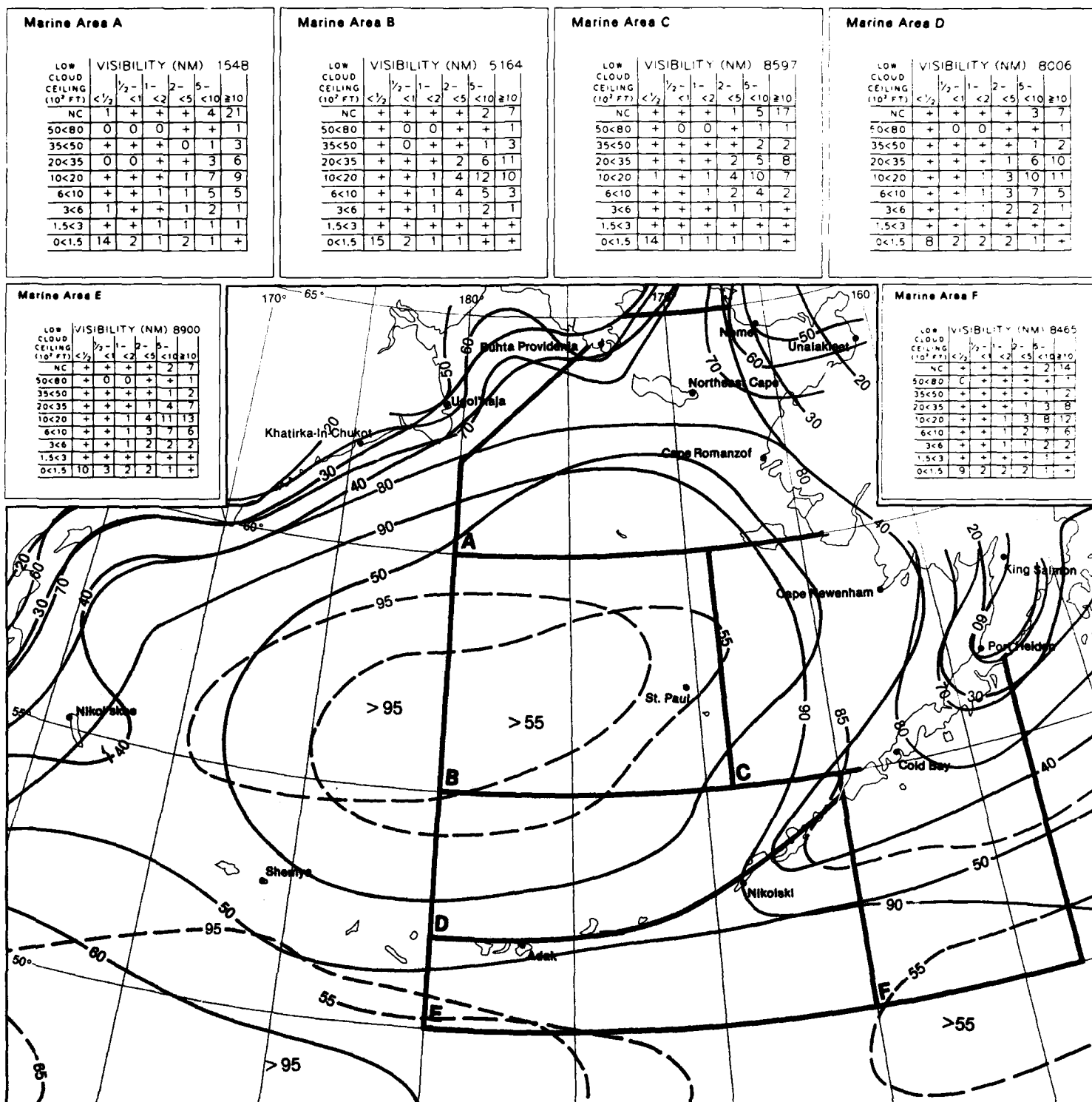
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 8841					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	8	7
50<80	0	+	0	0	1	+
35<50	+	0	0	+	1	+
20<35	+	+	0	+	3	3
10<20	+	+	+	1	14	4
6<10	+	+	1	3	8	1
3<6	1	2	3	8	9	1
1.5<3	+	1	1	1	1	+
0<1.5	10	4	1	+	+	0

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14017					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	6	3
50<80	+	+	0	+	+	+
35<50	0	0	0	+	1	+
20<35	0	0	+	+	12	2
10<20	+	+	+	8	32	2
6<10	+	+	1	9	11	+
3<6	+	+	1	3	3	+
1.5<3	+	+	+	+	+	0
0<1.5	1	1	1	+	+	0

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9991					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	2	6
50<80	0	+	0	+	+	+
35<50	0	0	0	0	+	+
20<35	+	+	0	+	2	4
10<20	+	+	+	1	11	10
6<10	+	+	1	4	10	3
3<6	1	3	5	7	7	1
1.5<3	+	1	1	1	1	+
0<1.5	12	4	2	1	+	+



4 Ceiling and Visibility (mid range)

June

## Nikel'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5348					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	+	0	0	0	+	+
35<50	0	0	0	+	+	+
20<35	+	0	+	+	1	7
10<20	+	+	+	3	5	15
6<10	+	+	1	5	4	5
3<6	+	+	1	3	2	2
1.5<3	+	+	+	+	+	+
0<1.5	25	+	+	+	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3251					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	0	+	+	1	33
50<80	0	0	0	+	0	+
35<50	0	0	0	+	+	8
20<35	+	0	+	1	1	8
10<20	+	+	1	3	2	5
6<10	+	+	1	3	2	2
3<6	+	+	+	1	1	+
1.5<3	+	+	+	+	1	+
0<1.5	21	+	+	0	+	+

## Ugol'naja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4940					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	2	47
50<80	0	0	0	0	+	+
35<50	0	0	0	+	+	4
20<35	+	+	+	+	1	10
10<20	+	+	+	1	2	8
6<10	+	+	1	2	2	2
3<6	0	+	+	1	2	1
1.5<3	+	+	+	+	+	+
0<1.5	10	1	+	+	+	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4407					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	1	2	37
50<80	0	0	0	+	+	+
35<50	0	+	+	+	+	2
20<35	0	0	+	1	1	7
10<20	+	+	2	6	6	9
6<10	+	+	3	3	2	2
3<6	+	1	3	2	1	+
1.5<3	+	+	1	+	0	+
0<1.5	4	+	+	0	0	+

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4466					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	6	24
50<80	+	+	+	+	+	1
35<50	0	0	0	0	+	+
20<35	+	+	+	+	+	3
10<20	+	+	1	3	8	11
6<10	+	1	2	4	10	4
3<6	+	1	2	3	3	1
1.5<3	0	0	+	+	+	+
0<1.5	3	2	1	+	0	0

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16600					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	2	42
50<80	+	+	0	+	+	3
35<50	0	0	0	0	+	3
20<35	0	+	+	+	1	5
10<20	0	+	+	1	4	8
6<10	+	+	1	4	7	3
3<6	+	1	3	4	3	1
1.5<3	+	+	+	+	+	+
0<1.5	1	+	+	+	+	0

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2898					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	1	35
50<80	0	0	0	0	0	3
35<50	+	0	0	+	+	7
20<35	0	0	0	+	1	16
10<20	0	+	+	1	3	17
6<10	0	+	+	1	3	6
3<6	0	+	+	1	1	1
1.5<3	0	0	+	0	0	+
0<1.5	+	+	+	+	+	+

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4841					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	2	15	13
50<80	0	+	+	0	+	+
35<50	0	0	0	0	+	+
20<35	0	0	0	+	2	4
10<20	0	+	+	1	5	4
6<10	0	+	1	3	13	5
3<6	+	1	2	6	8	1
1.5<3	+	+	+	1	+	+
0<1.5	5	4	1	+	0	0

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4057					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	1	2	6	18
50<80	+	+	+	+	+	1
35<50	0	+	+	+	+	1
20<35	+	+	+	+	2	2
10<20	+	+	1	2	5	5
6<10	+	+	1	4	7	9
3<6	+	1	2	6	5	3
1.5<3	+	+	+	+	+	+
0<1.5	6	4	1	1	+	0

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16739					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	2	35
50<80	+	+	+	+	+	4
35<50	+	+	0	+	1	6
20<35	+	0	+	+	2	12
10<20	+	+	+	1	5	8
6<10	+	+	1	2	4	2
3<6	+	+	1	3	2	1
1.5<3	+	+	+	+	+	+
0<1.5	2	1	1	+	+	+

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 93					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	1	2	4	1	38
50<80	0	0	0	0	0	1
35<50	0	0	0	0	0	1
20<35	0	0	0	0	1	11
10<20	0	0	2	0	1	6
6<10	0	1	0	3	4	2
3<6	0	0	0	4	3	3
1.5<3	0	0	0	0	0	0
0<1.5	5	1	1	1	0	0

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 12361					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	4	13
50<80	+	0	+	+	+	+
35<50	0	+	0	+	1	1
20<35	0	+	+	+	2	5
10<20	+	+	+	1	7	12
6<10	+	+	1	4	13	6
3<6	+	1	3	6	9	2
1.5<3	+	+	1	1	+	+
0<1.5	2	1	1	+	+	0

## Nikolaki

No Data Available

## St. Paul

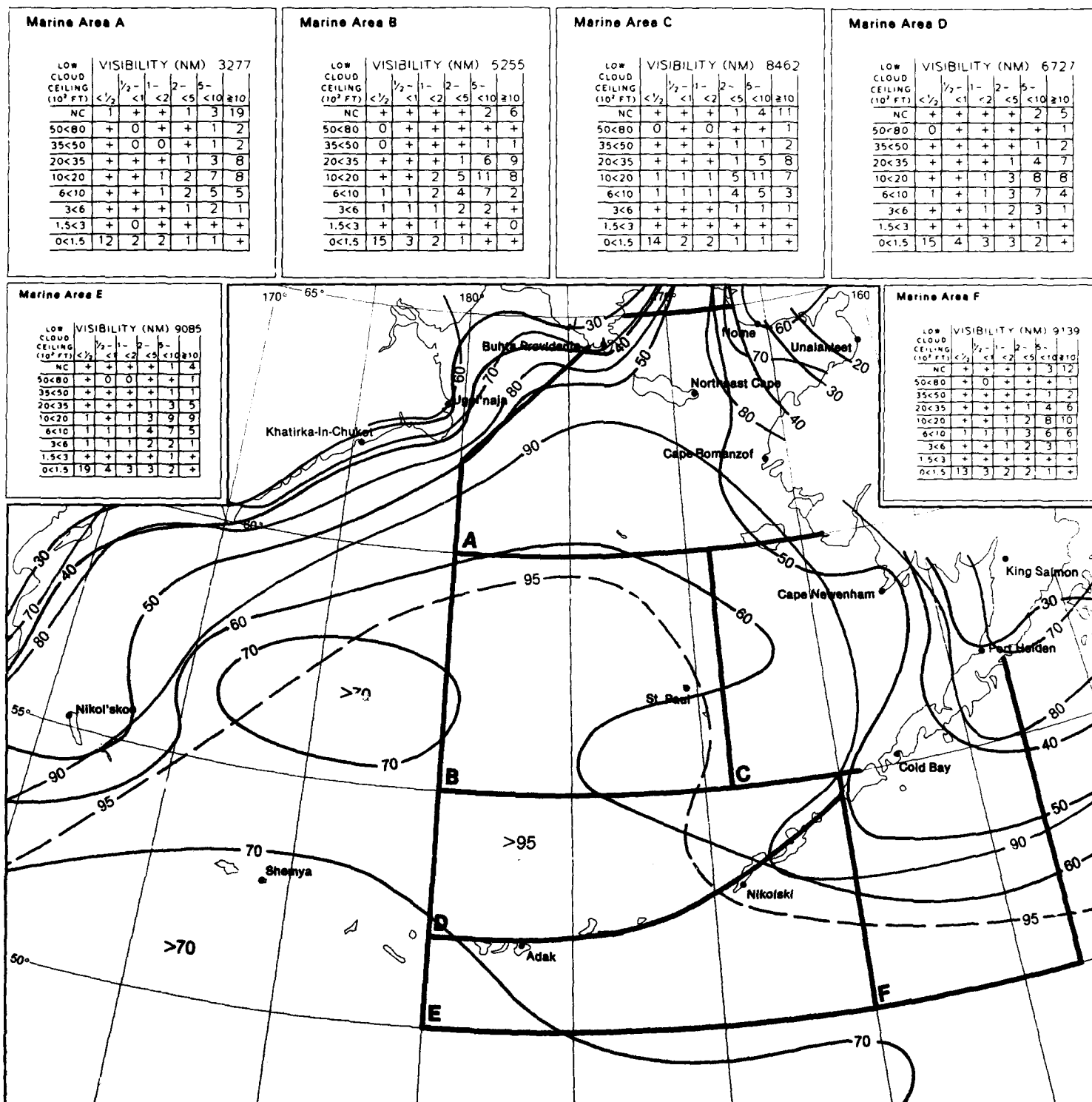
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9078					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	+	5	4
50<80	+	+	0	0	+	+
35<50	+	+	+	+	+	+
20<35	+	+	+	+	2	1
10<20	+	+	+	1	9	4
6<10	+	+	1	2	9	1
3<6	1	3	5	10	9	1
1.5<3	1	1	2	1	1	+
0<1.5	16	4	2	+	+	+

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14420					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	8	4
50<80	0	+	+	+	+	+
35<50	0	0	+	0	+	+
20<35	0	+	+	+	5	1
10<20	+	+	1	5	23	1
6<10	+	+	2	11	16	1
3<6	+	1	3	7	5	+
1.5<3	+	+	+	+	+	0
0<1.5	2	2	1	1	+	0

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10276					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	2	4
50<80	+	+	+	0	+	+
35<50	0	0	0	+	+	+
20<35	+	+	+	+	1	1
10<20	+	+	+	1	3	3
6<10	+	+	1	2	7	3
3<6	1	3	5	8	8	1
1.5<3	1	2	2	1	+	+
0<1.5	27	7	2	1	+	+



4 Ceiling and Visibility (mid range)

July

## Nikel'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5277					
	$\frac{1}{2}$	1	2	5	10	10
NC	1	+	+	+	+	22
50<80	0	0	0	0	+	+
35<50	0	0	0	+	+	1
20<35	+	0	+	+	+	9
10<20	+	+	1	3	7	18
6<10	+	+	1	4	4	4
3<6	+	+	1	2	1	1
1.5<3	+	+	+	+	+	+
0<1.5	14	+	+	+	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3266					
	$\frac{1}{2}$	1	2	5	10	10
NC	1	0	+	+	1	33
50<80	0	0	0	0	0	+
35<50	+	0	0	+	+	10
20<35	0	0	+	1	2	13
10<20	+	+	1	4	4	5
6<10	+	+	1	5	1	1
3<6	+	+	1	1	+	+
1.5<3	+	+	1	+	+	+
0<1.5	14	+	+	0	0	+

## Ugol'naja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4841					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	1	2	38
50<80	0	0	+	+	+	+
35<50	0	0	0	+	+	3
20<35	0	0	+	+	2	13
10<20	+	+	1	2	4	9
6<10	+	0	1	2	3	3
3<6	+	+	1	2	2	1
1.5<3	0	+	+	+	+	+
0<1.5	8	+	+	+	+	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4464					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	1	1	3	34
50<80	0	0	0	0	+	1
35<50	0	+	0	0	+	4
20<35	0	+	+	1	2	12
10<20	+	+	2	7	7	10
6<10	0	+	2	3	2	1
3<6	+	+	1	1	+	+
1.5<3	0	+	+	+	+	+
0<1.5	3	0	+	0	0	+

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4533					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	1	3	15
50<80	+	0	0	+	+	1
35<50	0	0	0	+	+	1
20<35	+	+	+	+	2	5
10<20	0	+	1	4	9	13
6<10	+	1	3	6	10	4
3<6	+	1	3	4	4	1
1.5<3	+	0	+	+	+	+
0<1.5	3	2	1	+	0	0

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16615					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	+	2	35
50<80	+	+	+	+	+	3
35<50	+	0	+	+	+	3
20<35	0	+	+	+	2	7
10<20	+	+	+	1	7	9
6<10	+	+	1	4	7	3
3<6	+	1	3	4	2	1
1.5<3	+	+	+	+	+	+
0<1.5	1	+	+	+	+	+

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2789					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	0	+	+	2	36
50<80	0	0	0	0	+	4
35<50	0	0	0	+	1	5
20<35	+	0	0	+	3	17
10<20	0	0	+	+	4	15
6<10	+	+	+	1	2	4
3<6	0	+	+	1	1	1
1.5<3	+	0	0	0	0	+
0<1.5	+	+	+	+	+	0

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4858					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	1	7	9
50<80	0	0	0	0	1	1
35<50	0	0	0	0	1	+
20<35	0	0	+	+	3	4
10<20	0	+	+	2	12	8
6<10	0	+	1	5	13	4
3<6	+	2	2	8	5	1
1.5<3	+	+	+	+	+	+
0<1.5	3	5	1	1	0	+

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4668					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	1	4	11
50<80	0	0	0	+	+	1
35<50	0	0	+	0	+	1
20<35	+	+	+	+	2	4
10<20	+	+	+	+	2	11
6<10	+	+	2	7	8	8
3<6	+	1	3	6	4	2
1.5<3	+	+	+	+	+	+
0<1.5	7	3	1	+	+	+

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16720					
	$\frac{1}{2}$	1	2	5	10	10
NC	1	+	+	1	4	31
50<80	+	+	+	+	1	4
35<50	+	+	+	+	1	6
20<35	+	+	+	+	3	11
10<20	+	0	+	1	5	8
6<10	+	+	1	3	4	2
3<6	+	+	1	3	3	1
1.5<3	+	+	+	+	+	+
0<1.5	1	1	1	+	+	+

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 123					
	$\frac{1}{2}$	1	2	5	10	10
NC	5	2	2	1	9	41
50<80	0	0	0	0	0	2
35<50	0	0	0	0	0	1
20<35	0	0	0	0	0	2
10<20	0	0	0	0	2	5
6<10	0	0	0	2	4	4
3<6	0	1	1	5	3	0
1.5<3	0	0	0	0	0	0
0<1.5	5	3	2	0	0	0

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 12385					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	1	4	10
50<80	0	0	+	0	+	1
35<50	0	+	+	+	1	1
20<35	+	+	+	+	4	6
10<20	+	+	+	1	9	10
6<10	+	+	1	5	12	5
3<6	+	1	4	8	8	1
1.5<3	+	+	1	1	+	+
0<1.5	2	2	1	+	+	+

## Nikolski

No Data Available

## St. Paul

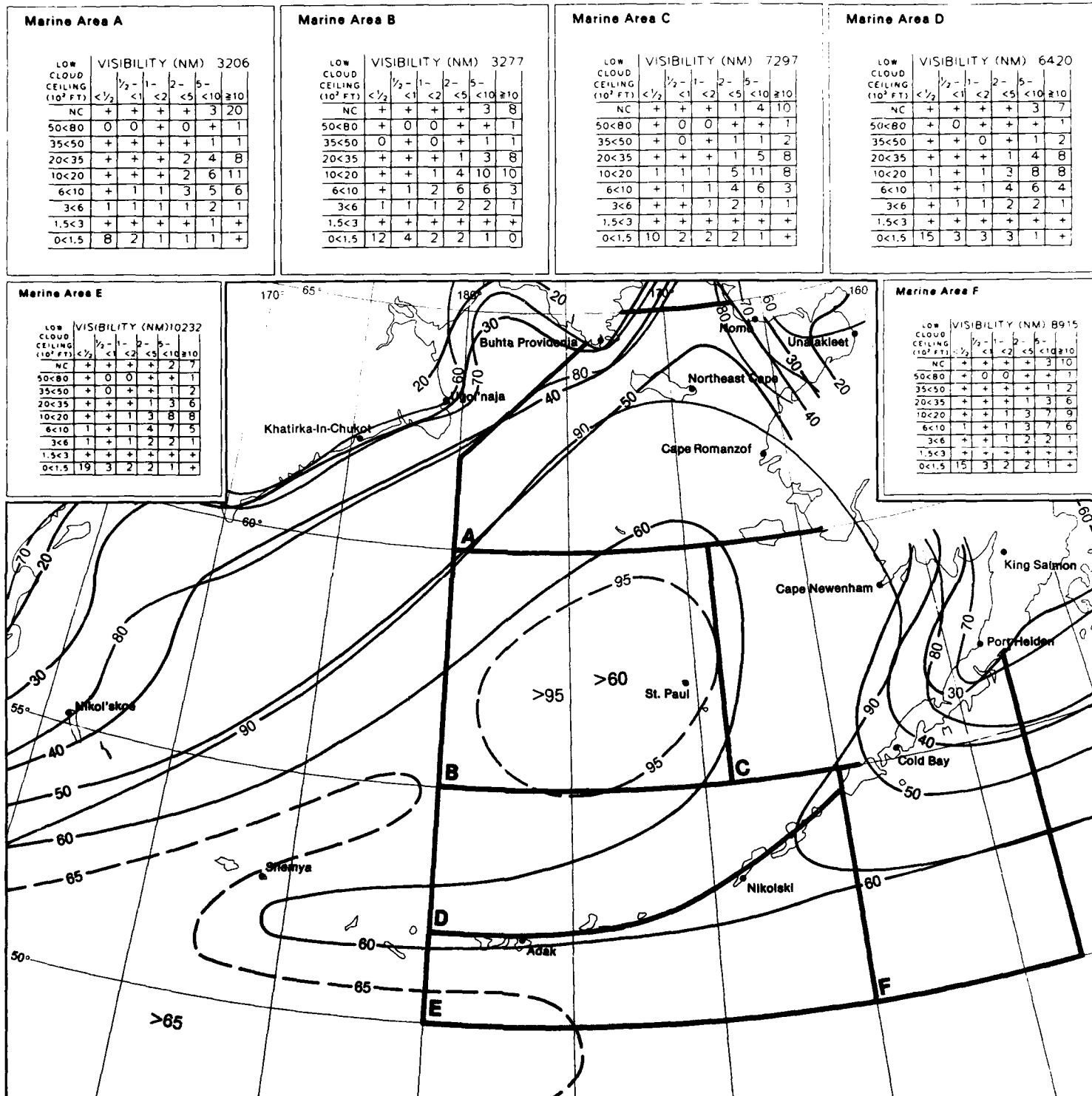
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9425					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	+	6	4
50<80	+	0	0	+	+	+
35<50	0	+	0	+	1	+
20<35	+	+	0	+	3	3
10<20	+	+	+	1	11	5
6<10	+	+	1	3	11	1
3<6	1	3	5	10	8	1
1.5<3	+	2	1	1	+	+
0<1.5	11	3	1	+	+	+

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14440					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	1	9	4
50<80	+	+	0	+	+	+
35<50	0	0	0	+	1	+
20<35	0	+	+	+	7	1
10<20	+	+	+	5	24	1
6<10	+	+	1	10	14	+
3<6	+	1	2	6	6	+
1.5<3	+	+	+	+	+	0
0<1.5	2	1	1	1	+	0

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10211					
	$\frac{1}{2}$	1	2	5	10	10
NC	+	+	+	+	3	7
50<80	+	+	+	+	+	+
35<50	+	+	0	+	+	1
20<35	+	+	+	+	2	3
10<20	+	+	+	1	6	6
6<10	+	+	1	3	7	3
3<6	1	3	4	7	8	1
1.5<3	1	1	1	1	+	+
0<1.5	20	5	1	1	+	0



4 Ceiling and Visibility (mid range)

August



## Nikol'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5248					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	<1	<2	<5	<10	$\geq 10$	
NC	+	+	+	1	2	37
50<80	0	0	0	0	0	+
35<50	0	0	0	+	+	2
20<35	+	0	+	+	2	12
10<20	+	+	+	4	8	20
6<10	+	+	+	2	2	2
3<6	+	+	+	1	+	1
1.5<3	0	0	0	0	0	0
0<1.5	4	+	+	+	+	+

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM)					3162
	1/2- <1	1- <2	2- <5	5- <10	10 ≥10	
NC	+	0	0	+	+	43
50<80	0	0	0	+	+	+
35<50	0	0	0	0	+	13
20<35	0	0	+	1	2	17
10<20	0	+	1	3	3	4
6<10	+	+	1	3	1	1
3<6	0	+	+	1	+	+
1.5<3	+	+	+	+	0	+
0<1.5	6	+	0	0	+	+

## Ugol'neja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4795					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	<1	<2	<5	<10	$\geq 10$	
NC	+	+	+	+	2	32
50<80	0	0	0	+	+	+
35<50	+	0	0	+	+	2
20<35	0	+	+	1	2	21
10<20	+	+	1	3	7	14
6<10	+	+	+	2	3	2
3<6	+	+	+	1	1	1
1.5<3	0	0	+	+	+	+
0<1.5	1	+	+	+	0	+

## Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4285					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	<1	<2	<5	<10	$\geq 10$	
NC	+	+	+	+	4	40
50<80	0	0	0	+	+	1
35<50	0	+	0	+	1	6
20<35	+	+	+	1	3	17
10<20	0	+	2	5	6	8
6<10	+	+	+	1	1	1
3<6	+	+	+	+	+	+
1.5<3	0	+	+	+	0	0
0<1.5	1	0	0	0	0	+

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4505					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	< $\frac{1}{2}$	<1	<2	<5	<10	$\geq 10$
NC	+	+	+	1	4	17
50<80	0	+	0	+	+	1
35<50	+	+	+	+	+	1
20<35	0	+	+	+	4	9
10<20	0	+	1	3	11	15
6<10	+	+	1	7	9	2
3<6	+	+	2	2	2	+
1.5<3	0	0	+	+	+	+
0<1.5	1	2	1	+	+	0

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16008				
	1/2- <1	1- <2	2- <5	5- <10	≥10
NC	+	+	+	+	3 43
50<80	0	0	0	+	1 4
35<50	0	0	0	+	1 4
20<35	0	+	+	+	3 9
10<20	+	+	+	2	8 8
6<10	+	+	1	3	4 1
3<6	+	+	1	2	1 +
1.5<3	+	+	+	+	+
0<1.5	+	+	+	+	0

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM): 2666					
	1/2- <1	1- <2	2- <5	5- <10	10- >10	
NC	0	0	0	1	7	39
50<80	0	0	0	0	1	4
35<50	0	0	0	+	2	7
20<35	0	0	+	+	4	15
10<20	+	0	+	+	4	10
6<10	0	0	+	+	1	3
3<6	0	0	+	+	+	+
1.5<3	0	0	0	0	+	+
0<1.5	+	0	0	0	0	0

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4566					
	<1	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	10	12
50<80	0	+	0	0	1	1
35<50	0	+	0	0	1	+
20<35	0	+	+	1	9	6
10<20	0	+	+	3	17	8
6<10	+	1	2	5	10	2
3<6	+	1	2	3	2	+
1.5<3	0	+	0	+	0	0
0<1.5	1	1	+	+	0	0

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4577					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	$<\frac{1}{2}$	$<1$	$<2$	$<5$	$<10$	$\geq 10$
NC	+	+	+	+	9	16
50<80	0	0	0	0	+	1
35<50	0	0	0	+	1	2
20<35	0	+	+	+	5	7
10<20	+	+	+	2	9	11
6<10	+	+	2	4	8	7
3<6	+	+	1	3	3	1
1.5<3	0	+	+	+	+	+
0<1.5	2	2	1	+	0	0

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16120				
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$
	<1	<2	<5	<10	$\geq 10$
NC	1	+	+	1	5 40
50<80	+	+	+	+	1 6
35<50	+	0	+	+	2 7
20<35	+	+	+	1	5 12
10<20	+	+	+	1	4 5
6<10	+	+	+	1	2 1
3<6	+	+	+	1	1 1
1.5<3	0	+	+	+	+
0<1.5	+	+	+	+	0

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM)						136
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$		
	$\frac{1}{2}$	1	2	5	$\geq 10$		
NC	0	0	1	3	4	58	
50<80	0	0	0	0	0	3	
35<50	0	0	0	0	0	5	
20<35	0	0	0	0	0	10	
10<20	0	0	0	0	2	7	
6<10	0	1	0	0	3	1	
3<6	0	0	0	1	0	0	
1.5<3	0	0	0	0	0	0	
0<1.5	1	0	0	0	0	0	

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 11965					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	<1	<2	<5	<10	$\geq 10$	
NC	+	+	+	+	7	15
50<80	+	+	+	0	+	1
35<50	0	0	0	+	2	3
20<35	0	+	+	+	8	11
10<20	0	0	+	1	11	8
6<10	0	+	1	4	10	3
3<6	+	1	2	4	4	1
1.5<3	+	+	+	+	+	+
0<1.5	+	+	1	+	+	+

## Nikolski

No Data Available

## St. Paul

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 8749					
	$\frac{1}{2}$ -	1-	2-	5-		
	$\leq \frac{1}{2}$	$\leq 1$	$\leq 2$	$\leq 5$	$\leq 10$	$\geq 10$
NC	+	+	+	1	12	8
50<80	+	+	0	+	+	+
35<50	+	+	0	0	2	1
20<35	+	0	+	+	8	4
10<20	+	+	+	1	19	6
6<10	0	+	1	3	9	1
3<6	+	1	3	5	4	+
1.5<3	+	1	1	1	+	+
0<1.5	4	1	1	+	+	0

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 13573					
	$\frac{1}{2}$ -	1-	2-	5-	$\geq 10$	
	$< \frac{1}{2}$	$< 1$	$< 2$	$< 5$	$\geq 10$	
NC	+	+	+	1	12	4
50<80	0	0	0	+	+	+
35<50	0	0	0	+	2	+
20<35	0	0	+	1	17	2
10<20	0	+	1	7	22	1
6<10	+	+	1	7	8	+
3<6	+	1	1	5	3	+
1.5<3	+	+	+	+	+	0
0<1.5	+	+	1	+	+	0

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10395					
	<1/2	1/2 - 1	1 - 2	2 - 5	5 - 10	≥10
NC	+	+	+	+	10	18
50<80	0	+	0	+	+	1
35<50	0	0	0	+	2	1
20<35	0	+	+	+	7	7
10<20	+	+	+	2	11	7
6<10	+	+	1	3	6	1
3<6	+	2	3	4	3	+
1.5<3	+	+	1	+	+	0
0<1.5	5	2	1	+	+	0

## Marine Area A

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2063					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	4	23
50<80	+	0	+	+	+	2
35<50	+	0	+	+	1	3
20<35	+	+	+	+	3	12
10<20	+	+	+	+	8	15
6<10	+	+	+	1	5	5
3<6	+	+	+	+	2	1
1.5<3	0	+	+	+	1	+
0<1.5	2	1	1	1	1	+

## Marine Area B

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2393					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	5	16
50<80	0	0	+	0	+	+
35<50	0	+	0	+	1	1
20<35	+	+	+	1	3	7
10<20	+	+	1	3	13	14
6<10	+	1	3	5	6	2
3<6	1	1	1	1	2	+
1.5<3	1	+	+	+	+	+
0<1.5	3	1	1	1	1	+

## Marine Area C

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 7675					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	7	18
50<80	0	0	+	+	+	1
35<50	+	0	+	+	+	1
20<35	+	+	+	1	5	9
10<20	+	+	1	5	12	9
6<10	+	+	1	3	4	3
3<6	+	+	1	2	1	1
1.5<3	+	+	+	+	+	+
0<1.5	4	2	2	2	1	+

## Marine Area D

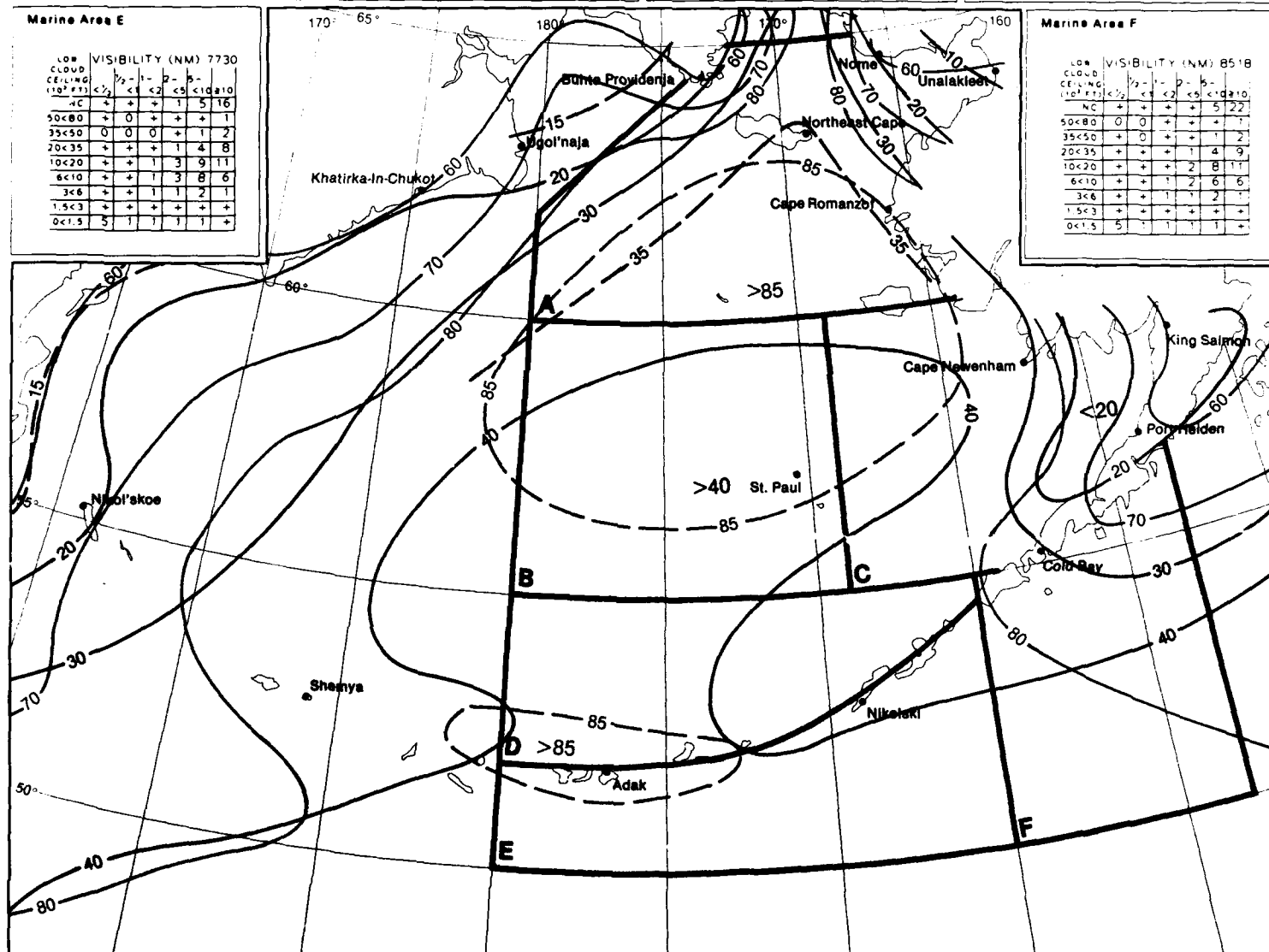
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 6249					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	4	16
50<80	0	0	+	+	+	1
35<50	+	0	0	+	1	2
20<35	+	+	+	1	5	10
10<20	+	+	1	2	9	12
6<10	+	+	1	3	7	6
3<6	+	+	1	2	3	1
1.5<3	+	+	+	+	1	+
0<1.5	4	1	2	2	1	+

## Marine Area E

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 7730					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	5	16
50<80	+	0	+	+	+	1
35<50	0	0	0	+	1	2
20<35	+	+	+	1	4	8
10<20	+	+	1	3	9	11
6<10	+	+	1	3	8	6
3<6	+	+	1	1	2	1
1.5<3	+	+	+	+	+	+
0<1.5	5	1	1	1	1	+

## Marine Area F

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 8518					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	5	22
50<80	0	0	+	+	+	1
35<50	+	0	+	+	1	2
20<35	+	+	+	+	1	4
10<20	+	+	+	1	2	8
6<10	+	+	1	2	6	6
3<6	+	+	1	1	2	1
1.5<3	+	+	+	+	+	+
0<1.5	5	1	1	1	1	+



4 Ceiling and Visibility (mid range)

September

Nikol'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5510					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	4	36
50<80	0	0	0	+	+	+
35<50	0	0	0	+	+	2
20<35	+	+	+	1	4	14
10<20	+	+	1	3	9	19
6<10	0	+	+	1	1	1
3<6	0	+	+	+	+	+
1.5<3	0	+	0	+	0	0
0<1.5	1	+	+	0	+	+

Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3525					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	0	+	1	1	61
50<80	+	0	0	+	+	+
35<50	0	0	0	+	+	7
20<35	+	+	1	2	1	9
10<20	+	1	1	4	3	3
6<10	+	+	+	1	1	+
3<6	0	+	+	+	+	+
1.5<3	0	0	+	+	+	0
0<1.5	1	0	0	0	0	0

Ugol'naia

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5104					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	1	3	34
50<80	0	+	+	+	+	+
35<50	+	+	+	+	+	3
20<35	+	+	1	2	3	14
10<20	2	2	3	6	6	10
6<10	1	+	1	2	1	1
3<6	+	+	+	+	+	+
1.5<3	0	0	+	+	+	+
0<1.5	1	+	+	+	+	0

Buhta Provideniia

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4518					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	7	37
50<80	0	0	0	+	+	+
35<50	+	+	+	+	1	6
20<35	+	+	1	2	6	17
10<20	+	1	2	5	5	4
6<10	+	+	+	+	+	+
3<6	+	+	+	+	+	0
1.5<3	+	+	+	0	+	0
0<1.5	1	0	+	0	+	0

Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4524					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	5	12
50<80	0	+	0	0	+	+
35<50	0	0	0	0	1	2
20<35	0	+	+	1	14	17
10<20	+	+	1	5	13	9
6<10	+	+	2	4	3	1
3<6	+	+	+	1	+	+
1.5<3	+	+	0	0	+	0
0<1.5	1	1	1	1	0	0

Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16430					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	4	46
50<80	0	0	+	+	1	3
35<50	0	0	+	+	1	5
20<35	+	+	+	1	5	9
10<20	+	+	+	1	2	6
6<10	+	+	1	2	3	1
3<6	+	+	1	1	+	+
1.5<3	0	+	+	+	+	0
0<1.5	1	1	+	+	+	+

Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2720					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	0	+	+	11	31
50<80	0	+	0	+	1	2
35<50	0	0	+	+	2	5
20<35	+	0	+	1	8	12
10<20	+	+	+	1	6	9
6<10	+	+	+	1	2	2
3<6	0	+	+	+	+	+
1.5<3	0	+	0	+	+	+
0<1.5	1	1	1	+	0	0

Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4423					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	+	+	1	16	14
50<80	0	+	+	+	1	+
35<50	0	+	0	+	2	1
20<35	+	+	+	1	16	6
10<20	+	1	1	3	15	4
6<10	+	1	1	2	4	1
3<6	+	+	+	+	1	+
1.5<3	0	0	0	+	0	0
0<1.5	1	2	+	+	0	0

Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4523					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	+	+	+	10	15
50<80	0	0	0	0	+	1
35<50	0	0	0	+	2	1
20<35	0	0	0	+	8	10
10<20	+	+	+	3	12	12
6<10	+	+	1	5	7	3
3<6	0	+	1	2	2	+
1.5<3	0	+	0	+	0	0
0<1.5	1	2	1	+	0	0

King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16550					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	+	+	1	7	46
50<80	+	+	+	+	1	5
35<50	+	+	+	+	2	6
20<35	+	+	+	+	5	10
10<20	+	+	+	1	4	4
6<10	+	+	+	1	2	1
3<6	+	+	+	1	1	+
1.5<3	+	+	+	+	+	+
0<1.5	1	+	+	+	+	0

Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 92					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	1	0	0	3	47
50<80	0	0	0	0	0	5
35<50	0	0	0	0	1	7
20<35	0	0	0	0	1	15
10<20	0	0	0	0	4	7
6<10	0	0	0	1	4	1
3<6	0	0	0	1	1	0
1.5<3	0	0	0	0	0	0
0<1.5	0	0	0	0	0	0

Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 12355					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	10	+
50<80	0	0	0	+	1	+
35<50	0	0	+	+	3	3
20<35	+	+	+	1	14	10
10<20	+	+	+	3	15	6
6<10	0	+	+	2	6	1
3<6	+	+	1	2	2	+
1.5<3	+	+	+	+	+	0
0<1.5	+	+	+	+	+	0

Nikolski

No Data Available

St. Paul

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 9188					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	+	+	1	18	7
50<80	0	0	+	+	1	+
35<50	0	+	0	0	2	1
20<35	+	+	+	+	12	6
10<20	+	+	+	3	26	6
6<10	+	+	+	3	6	1
3<6	+	+	1	1	1	+
1.5<3	+	+	+	+	+	0
0<1.5	1	+	+	+	0	0

Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 14044					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	0	+	+	1	16	4
50<80	0	+	0	+	1	+
35<50	0	0	0	+	5	1
20<35	+	+	+	2	26	3
10<20	+	+	1	8	20	1
6<10	0	+	1	3	3	+
3<6	+	+	1	1	1	+
1.5<3	0	0	+	+	+	0
0<1.5	+	+	+	+	+	0

Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10745					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	0	+	+	3	15
50<80	0	0	+	+	+	+
35<50	0	0	+	+	2	2
20<35	+	+	+	1	13	12
10<20	0	+	1	3	14	5
6<10	+	+	1	3	4	+
3<6	+	1	2	2	1	+
1.5<3	+	+	+	+	+	0
0<1.5	1	1	+	+	+	0

### Marine Area A

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 1179	1/2	1	2	5	10	20
<1/2	<1	<2	<5	<10	>10		
NC	0	0	+	+	2	15	
50<80	0	0	0	0	+	2	
35<50	0	0	+	+	1	2	
20<35	1	+	1	1	6	23	
10<20	+	+	1	3	9	10	
6<10	+	+	1	2	2	4	
3<6	+	+	+	1	1	1	
1.5<3	0	0	0	+	+	+	
0<1.5	1	1	1	2	1	1	

### Marine Area B

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 1644	1/2	1	2	5	10	20
<1/2	<1	<2	<5	<10	>10		
NC	+	+	+	2	6	12	
50<80	0	0	0	0	+	+	
35<50	0	0	0	+	1	+	
20<35	0	+	0	+	5	14	
10<20	+	+	2	5	14	11	
6<10	+	1	1	4	6	3	
3<6	+	+	+	1	2	1	
1.5<3	+	+	+	+	+	+	
0<1.5	1	+	1	1	1	+	

### Marine Area C

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3768	1/2	1	2	5	10	20
<1/2	<1	<2	<5	<10	>10		
NC	+	0	+	1	10	16	
50<80	0	0	0	+	+	1	
35<50	0	0	0	+	2	2	
20<35	+	0	+	2	5	11	
10<20	+	+	1	4	13	9	
6<10	+	+	1	3	4	3	
3<6	+	+	+	1	2	1	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	2	2	1	+	

### Marine Area D

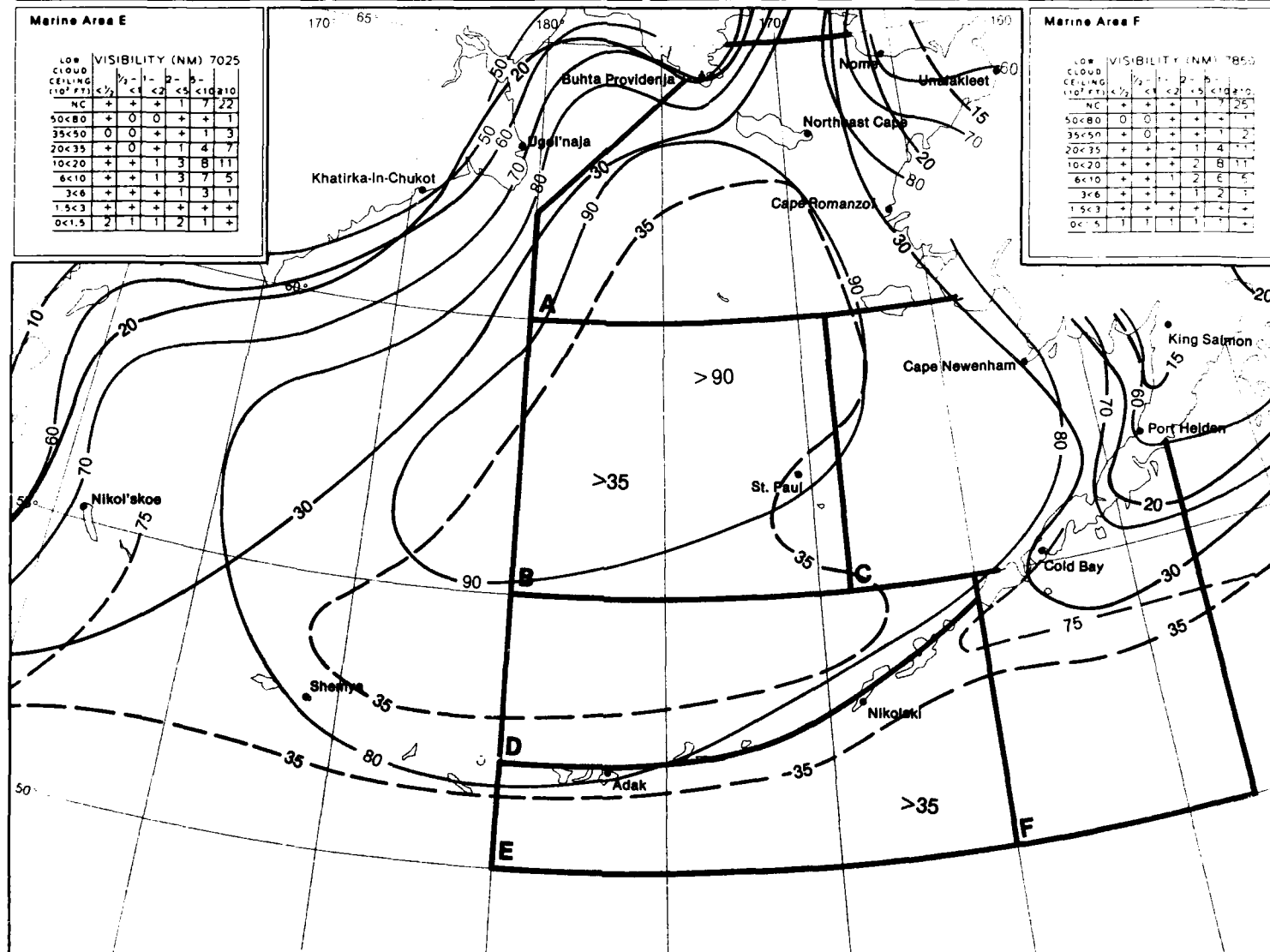
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5794	1/2	1	2	5	10	20
<1/2	<1	<2	<5	<10	>10		
NC	+	+	+	1	6	20	
50<80	0	0	0	+	+	1	
35<50	0	+	0	+	1	2	
20<35	+	+	+	1	4	10	
10<20	+	+	1	7	9	12	
6<10	+	+	1	2	7	7	
3<6	+	+	+	2	2	2	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	1	1	1	+	

### Marine Area E

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 7025	1/2	1	2	5	10	20
<1/2	<1	<2	<5	<10	>10		
NC	+	+	+	1	7	22	
50<80	0	0	0	+	+	1	
35<50	0	0	+	+	1	3	
20<35	+	0	+	1	4	7	
10<20	+	+	1	3	8	11	
6<10	+	+	1	3	7	5	
3<6	+	+	+	1	3	1	
1.5<3	+	+	+	+	+	+	
0<1.5	2	1	1	2	1	+	

### Marine Area F

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 7850	1/2	1	2	5	10	20
<1/2	<1	<2	<5	<10	>10		
NC	+	+	+	1	7	25	
50<80	0	0	0	+	+	1	
35<50	+	0	+	+	1	2	
20<35	+	+	+	1	4	11	
10<20	+	+	+	2	8	11	
6<10	+	+	1	2	6	5	
3<6	+	+	+	1	2	1	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	1	1	1	+	



## Nikol'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5266						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	1	4	30	
50<80	0	+	+	0	+	+	
35<50	0	+	+	+	+	1	
20<35	+	+	1	1	4	12	
10<20	1	1	2	6	9	23	
6<10	+	+	+	1	1	1	
3<6	+	+	+	+	+	+	
1.5<3	0	+	0	+	0	0	
0<1.5	1	0	+	+	+	+	

## Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 3249						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	1	2	2	60	
50<80	+	0	+	0	0	+	
35<50	+	+	+	+	+	4	
20<35	2	1	2	3	1	6	
10<20	1	+	2	3	2	2	
6<10	+	+	1	1	+	+	
3<6	+	+	+	+	+	+	
1.5<3	0	+	+	+	+	0	
0<1.5	1	0	0	0	0	0	

## Ugol'naia

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4978						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	2	1	2	3	5	32	
50<80	+	0	+	+	+	+	
35<50	+	0	+	+	+	1	
20<35	1	1	1	3	3	6	
10<20	6	4	5	6	4	5	
6<10	1	+	1	1	1	+	
3<6	1	+	+	1	+	+	
1.5<3	+	+	+	+	0	+	
0<1.5	1	+	+	+	0	+	

## Buhta Provideniia

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4293						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	1	2	9	39	
50<80	0	0	+	+	+	+	
35<50	0	0	+	+	1	2	
20<35	+	1	1	4	5	10	
10<20	2	3	5	6	4	4	
6<10	+	+	+	+	+	+	
3<6	0	+	+	+	+	+	
1.5<3	0	+	0	0	0	0	
0<1.5	1	0	0	0	0	0	

## Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4141						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	1	7	10	
50<80	0	+	0	+	+	+	
35<50	0	+	0	+	+	+	
20<35	+	+	1	2	12	7	
10<20	+	1	3	10	16	4	
6<10	+	+	2	3	4	1	
3<6	+	+	1	1	1	+	
1.5<3	0	0	0	0	0	0	
0<1.5	5	3	3	+	+	0	

## Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 16198						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	+	6	42	
50<80	+	+	+	+	1	3	
35<50	+	+	+	+	1	3	
20<35	+	+	+	2	6	5	
10<20	+	1	1	3	6	4	
6<10	+	+	1	2	2	+	
3<6	+	+	1	1	+	+	
1.5<3	+	+	+	+	+	+	
0<1.5	2	2	1	+	+	0	

## Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2627						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	0	+	17	31	
50<80	0	0	+	+	2	2	
35<50	0	+	+	+	3	3	
20<35	+	+	+	1	8	7	
10<20	0	+	+	2	7	5	
6<10	+	+	+	1	1	1	
3<6	0	+	+	+	+	+	
1.5<3	0	0	0	0	0	0	
0<1.5	2	2	1	1	+	0	

## Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4113						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	2	20	12	
50<80	+	+	+	+	2	1	
35<50	+	+	+	+	2	1	
20<35	+	1	+	2	17	3	
10<20	+	1	1	4	10	2	
6<10	+	1	1	4	3	+	
3<6	+	+	+	1	1	+	
1.5<3	+	0	0	0	0	0	
0<1.5	4	2	1	+	+	0	

## Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4214						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	1	9	18	
50<80	0	0	0	+	+	1	
35<50	0	0	0	+	1	1	
20<35	+	+	+	1	6	4	
10<20	+	+	1	4	15	6	
6<10	+	1	2	4	7	3	
3<6	+	1	1	3	2	1	
1.5<3	0	+	+	+	0	0	
0<1.5	3	2	1	+	0	0	

## King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 15953						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	1	+	+	1	8	47	
50<80	+	+	+	+	1	4	
35<50	+	+	+	+	2	4	
20<35	+	+	+	+	1	4	6
10<20	+	+	+	1	4	3	
6<10	+	+	+	1	2	1	
3<6	+	+	+	1	1	1	
1.5<3	+	+	+	+	+	+	
0<1.5	1	1	1	1	+	+	

## Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 148						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	0	0	1	1	1	34	
50<80	0	0	0	0	0	3	
35<50	0	0	0	0	0	3	
20<35	0	0	0	0	1	14	
10<20	0	0	1	3	9	14	
6<10	0	0	1	2	8	0	
3<6	0	0	0	0	1	0	
1.5<3	0	0	0	0	0	0	
0<1.5	1	1	0	0	0	0	

## Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 11938						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	1	12	18	
50<80	0	+	0	0	+	1	
35<50	+	+	+	+	3	2	
20<35	+	+	+	+	2	14	8
10<20	+	+	1	4	13	4	
6<10	+	+	1	2	5	1	
3<6	+	+	1	2	2	+	
1.5<3	0	+	+	+	+	0	
0<1.5	1	1	1	+	+	0	

## Nikolski

No Data Available

## St. Paul

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 8949						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	1	20	7	
50<80	0	0	0	+	+	+	
35<50	+	0	+	+	1	1	
20<35	+	+	+	1	12	5	
10<20	+	+	1	5	24	3	
6<10	+	+	1	4	6	+	
3<6	+	1	1	1	1	+	
1.5<3	+	+	+	+	+	0	
0<1.5	1	1	1	+	+	0	

## Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 13576						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	0	+	+	1	19	4	
50<80	0	0	0	0	1	+	
35<50	0	+	+	+	5	1	
20<35	+	+	+	3	29	2	
10<20	+	+	1	8	16	+	
6<10	+	+	1	3	2	+	
3<6	+	+	+	1	+	0	
1.5<3	0	0	+	+	+	0	
0<1.5	1	1	1	+	+	0	

## Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 10385						
	<1/2	1/2-1	1-2	2-5	<10	≥10	
NC	+	+	+	+	14	11	
50<80	0	+	0	+	+	+	
35<50	0	+	0	+	2	2	
20<35	+	+	+	1	17	10	
10<20	+	+	1	4	16	3	
6<10	+	+	1	3	4	+	
3<6	+	1	1	1	1	+	
1.5<3	+	+	+	+	+	0	
0<1.5	2	1	1	+	+	0	

Marine Area A

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 1060						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	0	0	+	+	2	12	
50<80	0	0	+	+	1	+	
35<50	0	0	+	0	+	1	
20<35	0	+	+	2	4	26	
10<20	1	1	4	8	7	8	
6<10	+	1	2	2	3	3	
3<6	+	+	+	1	1	+	
1.5<3	0	0	0	+	+	0	
0<1.5	1	2	2	2	1	+	

Marine Area B

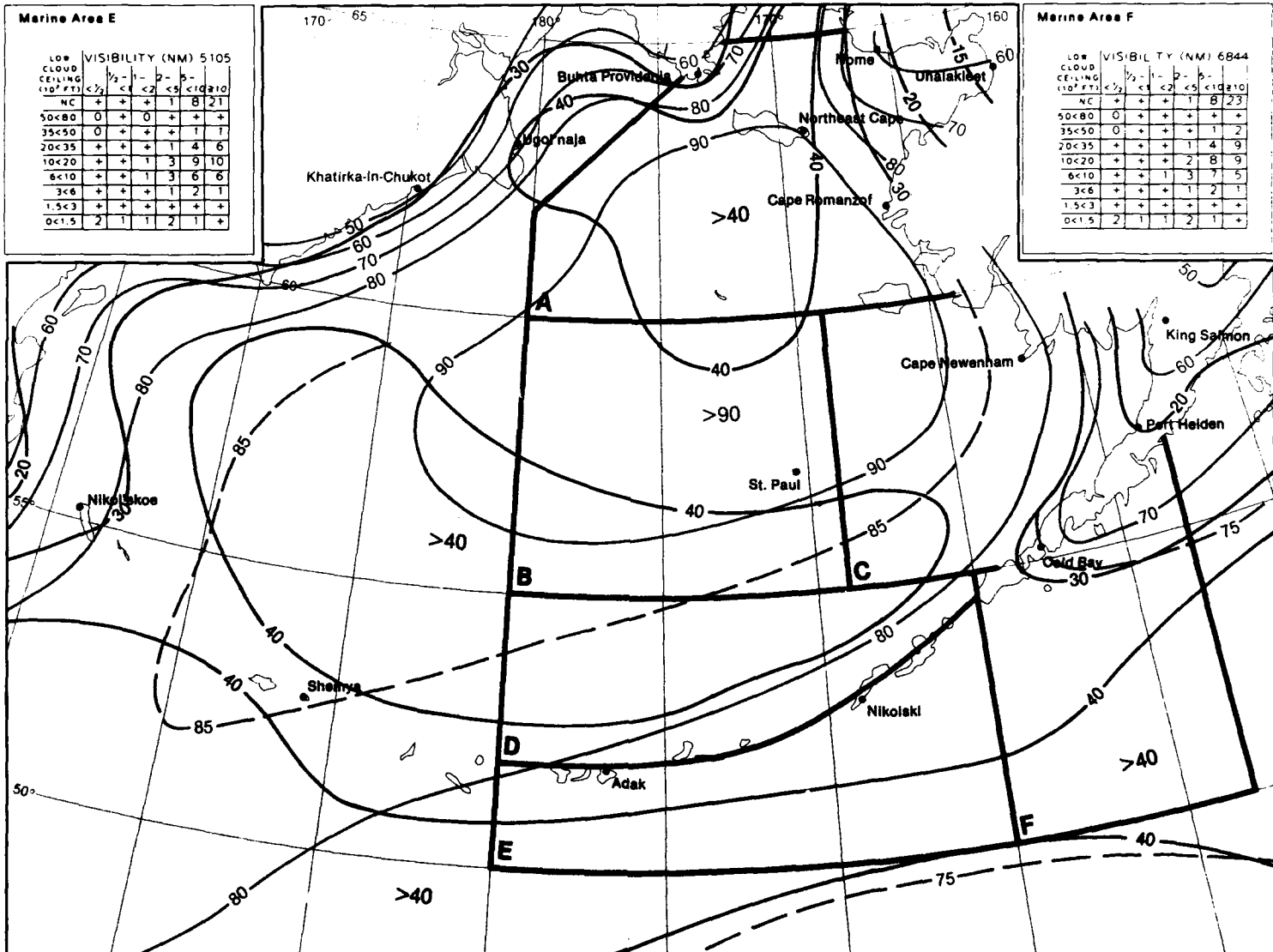
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2259						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	1	1	4	14	
50<80	0	0	0	+	+	1	
35<50	0	0	+	0	1	2	
20<35	+	+	+	2	4	28	
10<20	+	1	2	4	8	7	
6<10	+	1	1	2	4	1	
3<6	+	+	+	1	2	+	
1.5<3	+	+	+	+	+	+	
0<1.5	+	1	1	2	1	+	

Marine Area C

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2559						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	1	10	15	
50<80	0	+	+	+	+	+	
35<50	0	+	+	1	1	1	
20<35	0	+	+	1	5	12	
10<20	+	1	1	5	15	7	
6<10	+	+	1	2	4	2	
3<6	+	+	+	1	1	1	
1.5<3	+	+	+	+	+	0	
0<1.5	1	1	2	2	1	+	

Marine Area D

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5317						
	<1/2	1/2-1	1-2	2-5	5-10	≥10	
NC	+	+	+	1	9	20	
50<80	+	0	+	+	+	1	
35<50	+	+	+	+	2	1	
20<35	+	+	+	1	5	7	
10<20	+	+	1	2	8	8	
6<10	+	+	1	3	8	6	
3<6	+	+	+	2	3	2	
1.5<3	+	+	+	+	1	+	
0<1.5	1	1	1	2	1	+	



4 Ceiling and Visibility (mid range) November

Nikol'skoe

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 5428					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	4	26
50<80	+	0	0	+	0	1
35<50	0	+	0	+	+	2
20<35	+	+	1	2	3	11
10<20	2	3	3	7	9	21
6<10	+	+	+	1	+	+
3<6	+	+	+	+	0	+
1.5<3	+	0	0	0	0	0
0<1.5	1	+	+	+	+	+

Khatirka-In-Chukot

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 3257					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	1	3	3	2	56
50<80	+	0	0	+	0	+
35<50	+	+	1	+	1	4
20<35	1	1	2	4	2	6
10<20	1	1	2	2	1	1
6<10	1	+	1	1	+	+
3<6	+	+	+	+	+	+
1.5<3	+	0	+	+	+	0
0<1.5	1	0	+	0	0	+

Ugol'naja

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 5190					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	3	2	3	5	7	35
50<80	+	0	+	+	+	+
35<50	+	+	0	+	+	1
20<35	2	1	1	2	3	6
10<20	5	3	3	4	3	3
6<10	1	1	1	1	1	+
3<6	+	+	+	+	+	+
1.5<3	0	0	+	+	0	0
0<1.5	3	+	+	0	0	+

Buhta Providenja

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 4451					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	3	13	49
50<80	0	0	+	+	+	+
35<50	+	+	+	+	+	1
20<35	1	1	1	3	3	5
10<20	2	2	3	4	2	2
6<10	+	+	+	+	+	+
3<6	0	+	+	+	+	+
1.5<3	0	0	0	0	0	0
0<1.5	1	0	0	+	0	0

Northeast Cape

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 3916					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	4	15	31
50<80	+	0	0	0	+	+
35<50	0	+	+	0	+	+
20<35	+	+	1	2	5	1
10<20	+	1	3	7	11	3
6<10	+	+	1	3	3	+
3<6	+	+	+	+	+	+
1.5<3	0	0	0	+	+	0
0<1.5	3	2	1	+	0	0

Nome

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 16386					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	9	50
50<80	+	+	+	+	1	2
35<50	+	+	+	+	2	1
20<35	+	+	+	2	5	3
10<20	+	+	1	3	4	2
6<10	+	+	1	1	1	+
3<6	+	+	1	1	1	+
1.5<3	+	+	+	+	+	0
0<1.5	2	2	1	+	+	0

Unalakleet

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 2617					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	20	29
50<80	0	+	0	+	2	2
35<50	+	+	+	+	3	3
20<35	+	+	+	2	9	5
10<20	+	+	1	2	6	2
6<10	0	+	+	1	1	1
3<6	0	+	+	+	+	+
1.5<3	0	0	+	0	+	0
0<1.5	2	2	1	1	+	0

Cape Romanzof

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 4024					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	2	2	5	30	11
50<80	+	+	+	+	2	1
35<50	+	+	+	+	1	1
20<35	+	+	1	+	2	8
10<20	1	1	1	4	11	+
6<10	+	1	1	2	2	+
3<6	+	+	1	1	1	0
1.5<3	0	+	0	0	+	0
0<1.5	3	2	1	+	0	0

Cape Newenham

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 4202					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	1	1	12	20
50<80	+	0	0	+	+	1
35<50	0	0	+	+	1	1
20<35	+	+	+	1	5	3
10<20	+	1	1	5	11	4
6<10	1	1	2	5	6	2
3<6	+	+	1	1	1	+
1.5<3	0	0	+	+	+	0
0<1.5	4	3	1	+	0	0

King Salmon

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 16337					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	1	1	1	11	46
50<80	+	+	+	+	2	3
35<50	+	+	+	+	2	3
20<35	+	+	+	1	4	4
10<20	+	+	+	1	3	2
6<10	+	+	+	1	2	1
3<6	+	+	+	1	1	1
1.5<3	+	+	+	+	+	+
0<1.5	1	2	2	1	+	+

Port Heiden

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 109					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	1	0	0	0	1	38
50<80	0	0	0	0	0	1
35<50	0	0	0	0	0	2
20<35	0	0	0	0	4	9
10<20	0	0	0	0	11	12
6<10	0	0	1	2	9	0
3<6	0	0	0	3	1	0
1.5<3	0	0	0	0	0	0
0<1.5	2	3	0	2	0	0

Cold Bay

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 12315					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	11	18
50<80	0	+	+	+	1	1
35<50	+	+	+	+	3	2
20<35	1	1	1	3	12	6
10<20	+	+	1	4	12	4
6<10	+	+	1	3	4	1
3<6	+	1	1	2	2	+
1.5<3	0	+	+	+	+	+
0<1.5	2	2	1	+	+	+

Nikolski

No Data Available

St. Paul

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 9261					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	18	6
50<80	0	0	+	0	+	+
35<50	+	+	+	+	2	1
20<35	1	+	1	2	15	4
10<20	1	1	1	5	20	2
6<10	+	+	1	3	4	+
3<6	+	1	1	2	1	+
1.5<3	+	+	+	+	+	0
0<1.5	2	1	+	+	0	0

Adak

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 14074					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	1	17	2
50<80	0	0	0	+	1	+
35<50	0	0	+	+	6	1
20<35	0	+	+	3	28	1
10<20	+	+	2	8	16	+
6<10	+	+	1	4	2	0
3<6	+	+	+	1	+	0
1.5<3	+	0	+	+	+	0
0<1.5	1	1	1	1	+	0

Shemya

LOW CLOUD CEILING (10 <sup>3</sup> FT.)	VISIBILITY (NM) 10268					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	15	11
50<80	0	0	0	0	+	+
35<50	+	0	+	+	2	1
20<35	+	+	+	2	18	9
10<20	+	1	1	4	13	2
6<10	+	1	1	3	3	+
3<6	+	1	2	2	1	+
1.5<3	+	+	+	+	+	0
0<1.5	2	2	1	+	+	0

## Marine Area A

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 1817					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	0	+	+	+	+	+
35<50	0	0	+	+	+	+
20<35	1	+	1	3	3	28
10<20	1	2	9	8	5	6
6<10	+	1	1	1	1	2
3<6	+	+	+	+	+	1
1.5<3	+	0	+	+	+	+
0<1.5	4	3	4	3	1	+

## Marine Area B

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2862					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	0	0	+	+	1	1
35<50	+	0	+	+	1	3
20<35	+	+	2	3	5	26
10<20	1	2	4	4	7	7
6<10	+	1	1	2	2	3
3<6	+	+	+	1	+	2
1.5<3	0	0	+	+	0	+
0<1.5	3	2	3	3	1	+

## Marine Area C

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 2890					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	0	0	+	+	1	1
35<50	+	+	+	+	2	4
20<35	1	1	+	2	5	15
10<20	+	1	2	4	11	9
6<10	+	+	1	2	3	2
3<6	+	+	+	1	+	1
1.5<3	0	+	+	0	+	+
0<1.5	2	2	3	3	2	+

## Marine Area D

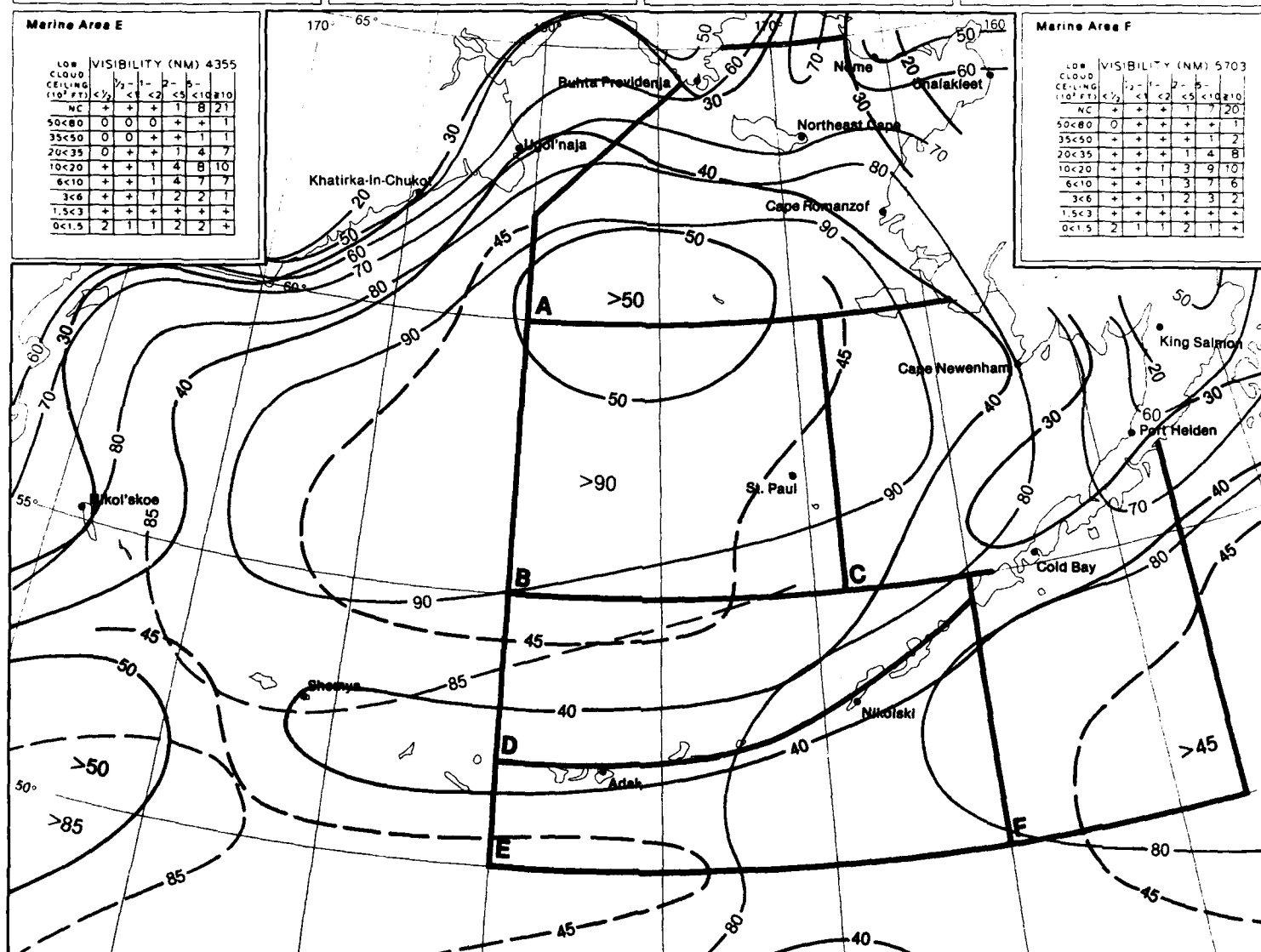
LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4984					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	0	0	+	+	1	1
35<50	+	+	+	+	2	2
20<35	+	+	+	1	3	7
10<20	+	+	1	2	9	11
6<10	+	+	1	3	8	7
3<6	+	+	1	2	3	2
1.5<3	+	+	+	+	1	+
0<1.5	2	1	1	2	1	+

## Marine Area E

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 4355					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	0	0	0	+	+	+
35<50	0	0	+	+	+	+
20<35	0	+	+	1	4	7
10<20	+	+	1	4	8	10
6<10	+	+	1	4	7	7
3<6	+	+	1	2	2	1
1.5<3	+	+	+	+	+	+
0<1.5	2	1	1	2	2	+

## Marine Area F

LOW CLOUD CEILING (10 <sup>3</sup> FT)	VISIBILITY (NM) 5703					
	<1/2	1/2-1	1-2	2-5	5-10	≥10
NC	+	+	+	+	+	+
50<80	0	+	+	+	+	+
35<50	+	+	+	+	1	2
20<35	+	+	+	1	4	8
10<20	+	+	1	3	9	10
6<10	+	+	1	3	7	6
3<6	+	+	1	2	3	2
1.5<3	+	+	+	+	+	+
0<1.5	2	1	1	2	1	+



4 Ceiling and Visibility (mid range)

December



## Map 5. Visibility thresholds

TABLE - Percent frequency of visibility (nautical miles).

Albers Equal-Area Conic Projection

### Graphs: Visibility thresholds

Percent frequency of visibility of various ranges for designated marine areas and coastal stations.

VISIBILITY (NM)	%
<.5	1.2
.5 <1	2.9
1 <2	1.2
2 <5	3.2
5 <10	30.7
≥10	60.8
N=	342

(2.9% of the observed visibilities were <1 but ≥1/2 nautical mile. Other percentages can be similarly interpreted.)

Nautical miles	.5	1	2	5	10
Kilometers	1	2	4	10	20

N = Observation count.

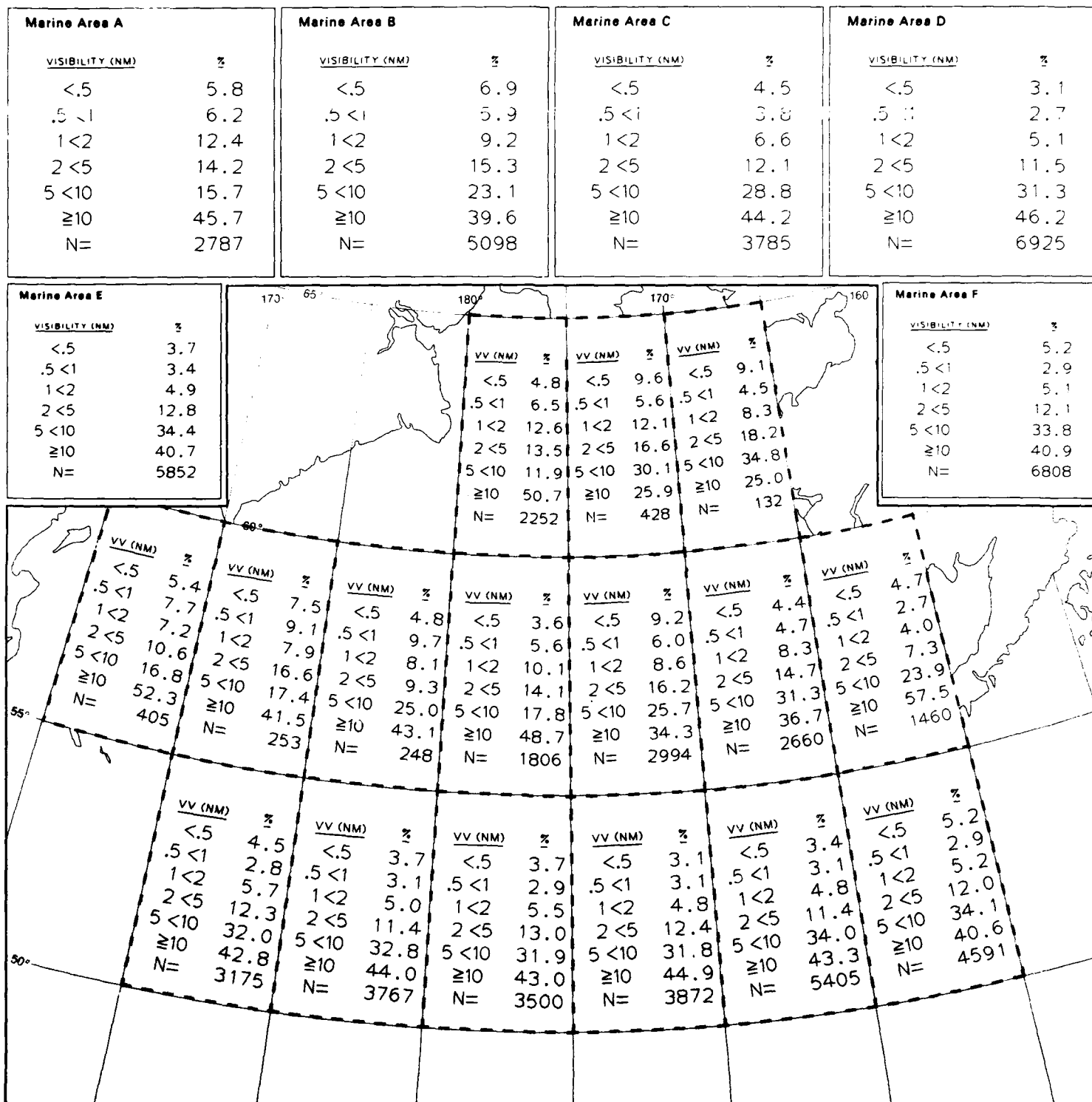
Visibility is a term that denotes the greatest distance from an observer that an object of known characteristics can be seen and identified with the unaided eye. When the visibility is not the same in all directions, the greatest distance common to one-half or more of the horizon circle is determined. Visibilities are difficult to measure at sea because of the lack of reference points. Climatically, many low visibility observations probably are missed because the observer is too busy with other duties (this is a form of fair weather bias). Also, some observers seem to report reduced visibilities at night because of darkness, though this tendency has abated in recent years. However, the coarseness of the visibility intervals (see code table) tends to minimize the problem, thereby permitting the summarized data to be relatively consistent. Visibilities greater than 25 nautical miles should be interpreted cautiously because the earth's curvature makes it impossible to see that distance horizontally from the bridge of most ships.

VISIBILITY (WMO Code, 1982)				
Code figs.	Visibility (vv) in m/km	Visibility (vv) in yd./naut. mi.	Code figs.	
90	less than 50 m	less than 55 yd.	90	
91	50 but less than 200 m	55 but less than 220 yd.	91	
92	200 but less than 500 m	220 but less than 550 yd.	92	
93	500 but less than 1000 m	550 but less than 1/2 n. mi.	93	
94	1 but less than 2 km	1/2 but less than 1 n. mi.	94	
95	2 but less than 4 km	1 but less than 2 n. mi.	95	
96	4 but less than 10 km	2 but less than 5 n. mi.	96	
97	10 but less than 20 km	5 but less than 11 n. mi.	97	
98	20 but less than 50 km	11 but less than 27 n. mi.	98	
99	50 km or more	27 n. mi. or more	99	
The visibility ranges corresponding to various weather types are as follows:				
90	Heavy snow, heavy drizzle	Fog, thick haze	90	
91			91	
92			92	
93	Moderate snow, moderate drizzle		93	
94	Heavy rain	Mist, haze	94	
95	Moderate rain		95	
96			96	
97	Light rain	Light snow, light drizzle	97	
98			98	
99			99	

<b>Nikol'skoe</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>5.1</td></tr><tr><td>.5 &lt;1</td><td>5.1</td></tr><tr><td>1 &lt;2</td><td>6.1</td></tr><tr><td>2 &lt;5</td><td>12.1</td></tr><tr><td>5 &lt;10</td><td>18.2</td></tr><tr><td>≥10</td><td>53.4</td></tr><tr><td>N=</td><td>5899</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	5.1	.5 <1	5.1	1 <2	6.1	2 <5	12.1	5 <10	18.2	≥10	53.4	N=	5899	<b>Khatirka-In-Chukot</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>5.9</td></tr><tr><td>.5 &lt;1</td><td>3.2</td></tr><tr><td>1 &lt;2</td><td>9.8</td></tr><tr><td>2 &lt;5</td><td>12.0</td></tr><tr><td>5 &lt;10</td><td>7.8</td></tr><tr><td>≥10</td><td>60.7</td></tr><tr><td>N=</td><td>3702</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	5.9	.5 <1	3.2	1 <2	9.8	2 <5	12.0	5 <10	7.8	≥10	60.7	N=	3702	<b>Ugol'naia</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>14.2</td></tr><tr><td>.5 &lt;1</td><td>8.1</td></tr><tr><td>1 &lt;2</td><td>11.5</td></tr><tr><td>2 &lt;5</td><td>14.6</td></tr><tr><td>5 &lt;10</td><td>11.9</td></tr><tr><td>≥10</td><td>39.6</td></tr><tr><td>N=</td><td>5289</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	14.2	.5 <1	8.1	1 <2	11.5	2 <5	14.6	5 <10	11.9	≥10	39.6	N=	5289	<b>Buhta Provideniia</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>4.3</td></tr><tr><td>.5 &lt;1</td><td>5.2</td></tr><tr><td>1 &lt;2</td><td>10.5</td></tr><tr><td>2 &lt;5</td><td>12.8</td></tr><tr><td>5 &lt;10</td><td>17.7</td></tr><tr><td>≥10</td><td>49.6</td></tr><tr><td>N=</td><td>4710</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	4.3	.5 <1	5.2	1 <2	10.5	2 <5	12.8	5 <10	17.7	≥10	49.6	N=	4710
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1 <2	5.5																																																																		
2 <5	15.6																																																																		
5 <10	56.0																																																																		
≥10	10.8																																																																		
N=	11605																																																																		
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
<.5	1.8																																																																		
.5 <1	2.1																																																																		
1 <2	5.3																																																																		
2 <5	18.0																																																																		
5 <10	68.0																																																																		
≥10	4.9																																																																		
N=	22604																																																																		
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
<.5	3.6																																																																		
.5 <1	4.3																																																																		
1 <2	7.3																																																																		
2 <5	17.0																																																																		
5 <10	51.2																																																																		
≥10	16.6																																																																		
N=	19321																																																																		

January

5 Visibility Thresholds



II-112

<b>Nikol'skoe</b>	<b>Khatirka-In-Chukot</b>	<b>Ugol'neja</b>	<b>Buhta Providenja</b>
<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %
<.5                      5.9	<.5                      5.5	<.5                      12.6	<.5                      4.6
.5 <1                      7.3	.5 <1                      2.7	.5 <1                      7.1	.5 <1                      3.9
1 <2                      6.0	1 <2                      6.3	1 <2                      10.6	1 <2                      6.7
2 <5                      11.4	2 <5                      9.0	2 <5                      12.5	2 <5                      10.6
5 <10                      16.3	5 <10                      7.0	5 <10                      12.0	5 <10                      15.0
≥10                      53.0	≥10                      69.5	≥10                      45.3	≥10                      59.2
N=                      5464	N=                      3250	N=                      4843	N=                      4361

<b>Northeast Cape</b>	<b>Nome</b>	<b>Unalakleet</b>	<b>Cape Romanzof</b>
<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %
<.5                      3.7	<.5                      3.4	<.5                      2.6	<.5                      8.4
.5 <1                      4.1	.5 <1                      3.3	.5 <1                      2.5	.5 <1                      8.2
1 <2                      8.6	1 <2                      4.4	1 <2                      3.0	1 <2                      6.5
2 <5                      14.8	2 <5                      8.3	2 <5                      6.1	2 <5                      14.2
5 <10                      40.3	5 <10                      19.3	5 <10                      23.6	5 <10                      29.9
≥10                      28.5	≥10                      61.4	≥10                      62.2	≥10                      32.7
N=                      8840	N=                      20107	N=                      13990	N=                      16381

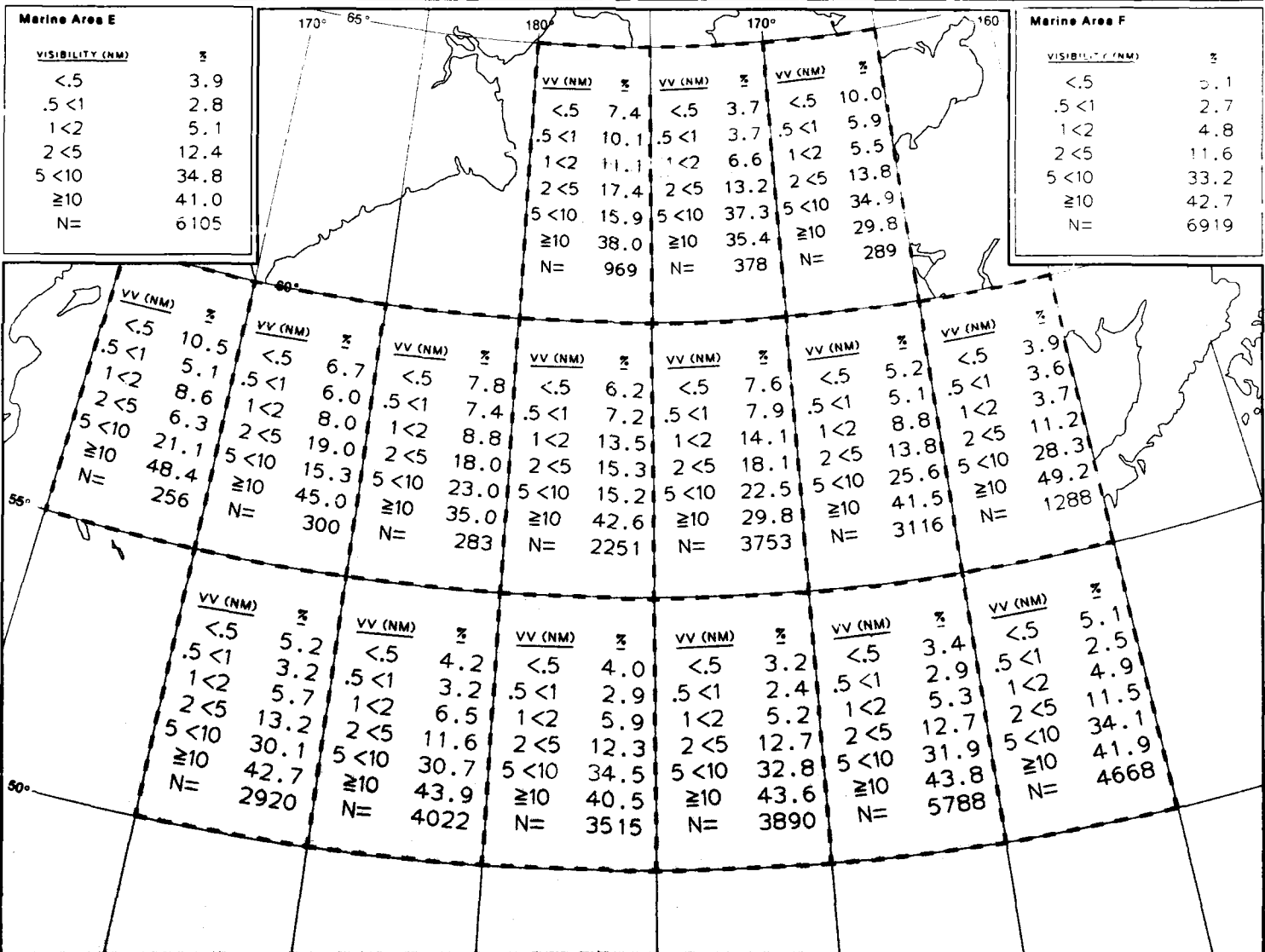
<b>Cape Newenham</b>	<b>King Salmon</b>	<b>Port Heiden</b>	<b>Cold Bay</b>
<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %
<.5                      3.4	<.5                      1.6	<.5                      7.1	<.5                      5.1
.5 <1                      3.9	.5 <1                      2.7	.5 <1                      3.6	.5 <1                      4.0
1 <2                      6.7	1 <2                      3.5	1 <2                      2.3	1 <2                      5.9
2 <5                      15.7	2 <5                      6.1	2 <5                      9.5	2 <5                      12.9
5 <10                      34.4	5 <10                      19.0	5 <10                      19.0	5 <10                      38.7
≥10                      35.9	≥10                      67.1	≥10                      58.6	≥10                      33.4
N=                      17495	N=                      17374	N=                      2024	N=                      12682

<b>Nikolaki</b>	<b>St. Paul</b>	<b>Adak</b>	<b>Shemya</b>
<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %	<u>VISIBILITY (NM)</u> %
<.5                      15.9	<.5                      11.5	<.5                      1.9	<.5                      5.3
.5 <1                      2.0	.5 <1                      6.2	.5 <1                      2.5	.5 <1                      5.4
1 <2                      1.2	1 <2                      5.8	1 <2                      5.3	1 <2                      6.9
2 <5                      5.8	2 <5                      14.5	2 <5                      18.0	2 <5                      16.6
5 <10                      37.7	5 <10                      50.9	5 <10                      67.2	5 <10                      46.1
≥10                      37.3	≥10                      11.1	≥10                      5.1	≥10                      19.7
N=                      2032	N=                      10535	N=                      21255	N=                      17646

February

5 Visibility Thresholds

Marine Area A		Marine Area B		Marine Area C		Marine Area D	
VISIBILITY (NM)	%	VISIBILITY (NM)	%	VISIBILITY (NM)	%	VISIBILITY (NM)	%
<.5	7.1	<.5	7.0	<.5	4.9	<.5	3.1
.5 <1	7.9	.5 <1	7.5	.5 <1	4.6	.5 <1	2.8
1 <2	9.2	1 <2	13.7	1 <2	6.8	1 <2	5.7
2 <5	16.0	2 <5	17.3	2 <5	12.2	2 <5	12.8
5 <10	24.2	5 <10	20.2	5 <10	26.6	5 <10	31.2
≥10	35.7	≥10	34.3	≥10	44.8	≥10	44.4
N=	1617	N=	6409	N=	3929	N=	7088

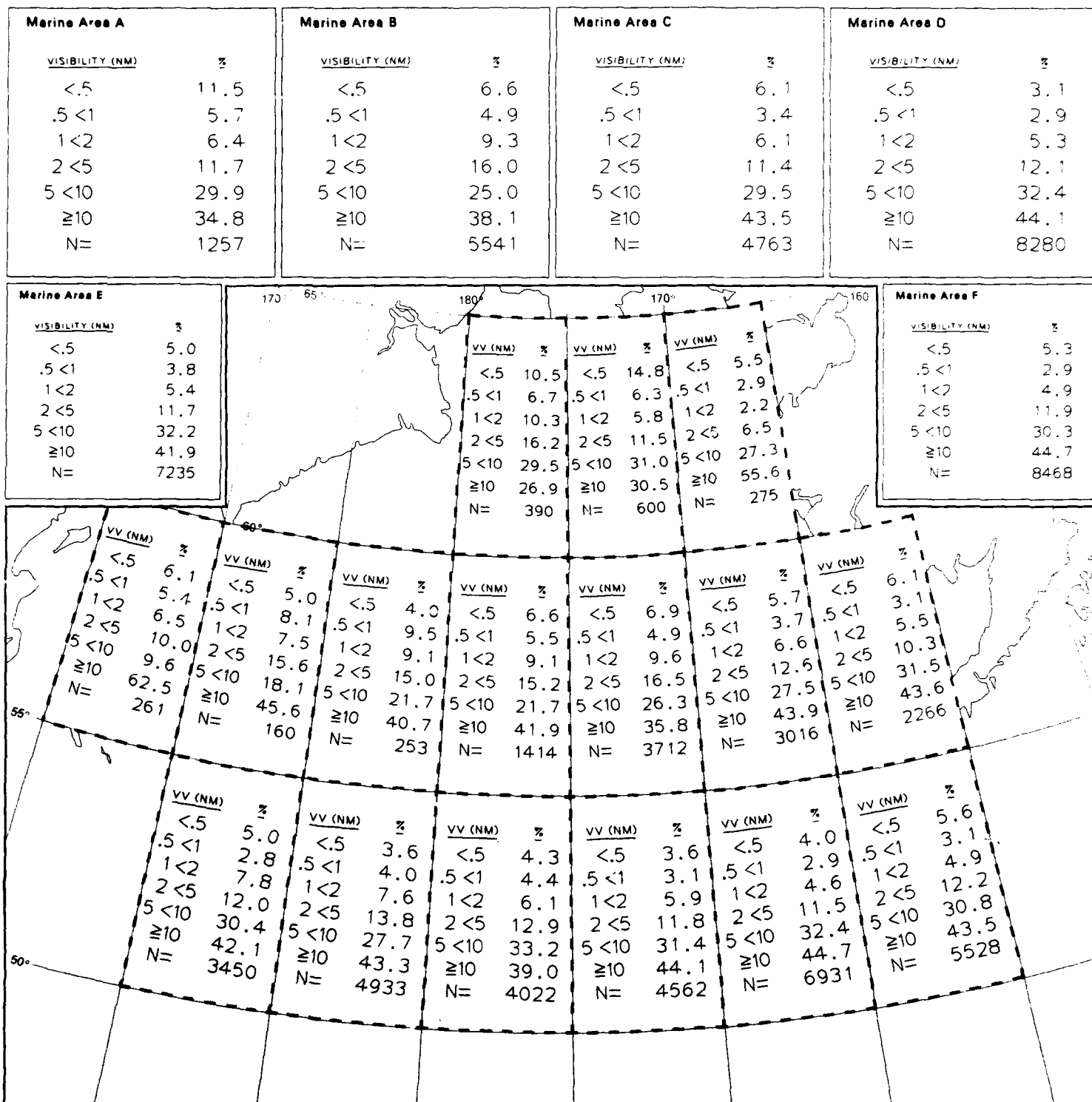


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<div>Nikol'skoe</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>4.3</td></tr><tr><td>.5 &lt;1</td><td>5.1</td></tr><tr><td>1 &lt;2</td><td>8.4</td></tr><tr><td>2 &lt;5</td><td>11.2</td></tr><tr><td>5 &lt;10</td><td>15.5</td></tr><tr><td>≥10</td><td>55.4</td></tr><tr><td>N=</td><td>6021</td></tr></table>	VISIBILITY (NM)	%	<.5	4.3	.5 <1	5.1	1 <2	8.4	2 <5	11.2	5 <10	15.5	≥10	55.4	N=	6021	<div>Khatirka-In-Chukot</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.7</td></tr><tr><td>.5 &lt;1</td><td>2.3</td></tr><tr><td>1 &lt;2</td><td>6.4</td></tr><tr><td>2 &lt;5</td><td>7.1</td></tr><tr><td>5 &lt;10</td><td>5.8</td></tr><tr><td>≥10</td><td>74.7</td></tr><tr><td>N=</td><td>4081</td></tr></table>	VISIBILITY (NM)	%	<.5	3.7	.5 <1	2.3	1 <2	6.4	2 <5	7.1	5 <10	5.8	≥10	74.7	N=	4081	<div>Ugol'neja</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>9.6</td></tr><tr><td>.5 &lt;1</td><td>5.2</td></tr><tr><td>1 &lt;2</td><td>9.3</td></tr><tr><td>2 &lt;5</td><td>13.4</td></tr><tr><td>5 &lt;10</td><td>11.8</td></tr><tr><td>≥10</td><td>50.5</td></tr><tr><td>N=</td><td>5299</td></tr></table>	VISIBILITY (NM)	%	<.5	9.6	.5 <1	5.2	1 <2	9.3	2 <5	13.4	5 <10	11.8	≥10	50.5	N=	5299	<div>Buhta Providenja</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>4.3</td></tr><tr><td>.5 &lt;1</td><td>3.0</td></tr><tr><td>1 &lt;2</td><td>5.7</td></tr><tr><td>2 &lt;5</td><td>9.9</td></tr><tr><td>5 &lt;10</td><td>14.5</td></tr><tr><td>≥10</td><td>62.5</td></tr><tr><td>N=</td><td>4900</td></tr></table>	VISIBILITY (NM)	%	<.5	4.3	.5 <1	3.0	1 <2	5.7	2 <5	9.9	5 <10	14.5	≥10	62.5	N=	4900
VISIBILITY (NM)	%																																																																		
<.5	4.3																																																																		
.5 <1	5.1																																																																		
1 <2	8.4																																																																		
2 <5	11.2																																																																		
5 <10	15.5																																																																		
≥10	55.4																																																																		
N=	6021																																																																		
VISIBILITY (NM)	%																																																																		
<.5	3.7																																																																		
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≥10	74.7																																																																		
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VISIBILITY (NM)	%																																																																		
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5 <10	11.8																																																																		
≥10	50.5																																																																		
N=	5299																																																																		
VISIBILITY (NM)	%																																																																		
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2 <5	9.9																																																																		
5 <10	14.5																																																																		
≥10	62.5																																																																		
N=	4900																																																																		
<div>Northeast Cape</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>5.3</td></tr><tr><td>.5 &lt;1</td><td>4.8</td></tr><tr><td>1 &lt;2</td><td>7.1</td></tr><tr><td>2 &lt;5</td><td>13.9</td></tr><tr><td>5 &lt;10</td><td>37.2</td></tr><tr><td>≥10</td><td>31.8</td></tr><tr><td>N=</td><td>9517</td></tr></table>	VISIBILITY (NM)	%	<.5	5.3	.5 <1	4.8	1 <2	7.1	2 <5	13.9	5 <10	37.2	≥10	31.8	N=	9517	<div>Nome</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.2</td></tr><tr><td>.5 &lt;1</td><td>3.1</td></tr><tr><td>1 &lt;2</td><td>4.5</td></tr><tr><td>2 &lt;5</td><td>9.3</td></tr><tr><td>5 &lt;10</td><td>17.9</td></tr><tr><td>≥10</td><td>61.9</td></tr><tr><td>N=</td><td>21309</td></tr></table>	VISIBILITY (NM)	%	<.5	3.2	.5 <1	3.1	1 <2	4.5	2 <5	9.3	5 <10	17.9	≥10	61.9	N=	21309	<div>Unalakleet</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>1.8</td></tr><tr><td>.5 &lt;1</td><td>1.7</td></tr><tr><td>1 &lt;2</td><td>2.3</td></tr><tr><td>2 &lt;5</td><td>6.3</td></tr><tr><td>5 &lt;10</td><td>21.8</td></tr><tr><td>≥10</td><td>66.0</td></tr><tr><td>N=</td><td>14498</td></tr></table>	VISIBILITY (NM)	%	<.5	1.8	.5 <1	1.7	1 <2	2.3	2 <5	6.3	5 <10	21.8	≥10	66.0	N=	14498	<div>Cape Romanzof</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>8.8</td></tr><tr><td>.5 &lt;1</td><td>9.7</td></tr><tr><td>1 &lt;2</td><td>6.1</td></tr><tr><td>2 &lt;5</td><td>13.9</td></tr><tr><td>5 &lt;10</td><td>27.1</td></tr><tr><td>≥10</td><td>34.4</td></tr><tr><td>N=</td><td>18221</td></tr></table>	VISIBILITY (NM)	%	<.5	8.8	.5 <1	9.7	1 <2	6.1	2 <5	13.9	5 <10	27.1	≥10	34.4	N=	18221
VISIBILITY (NM)	%																																																																		
<.5	5.3																																																																		
.5 <1	4.8																																																																		
1 <2	7.1																																																																		
2 <5	13.9																																																																		
5 <10	37.2																																																																		
≥10	31.8																																																																		
N=	9517																																																																		
VISIBILITY (NM)	%																																																																		
<.5	3.2																																																																		
.5 <1	3.1																																																																		
1 <2	4.5																																																																		
2 <5	9.3																																																																		
5 <10	17.9																																																																		
≥10	61.9																																																																		
N=	21309																																																																		
VISIBILITY (NM)	%																																																																		
<.5	1.8																																																																		
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5 <10	21.8																																																																		
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VISIBILITY (NM)	%																																																																		
<.5	8.8																																																																		
.5 <1	9.7																																																																		
1 <2	6.1																																																																		
2 <5	13.9																																																																		
5 <10	27.1																																																																		
≥10	34.4																																																																		
N=	18221																																																																		
<div>Cape Newenham</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>5.2</td></tr><tr><td>.5 &lt;1</td><td>5.2</td></tr><tr><td>1 &lt;2</td><td>7.5</td></tr><tr><td>2 &lt;5</td><td>14.8</td></tr><tr><td>5 &lt;10</td><td>32.0</td></tr><tr><td>≥10</td><td>35.4</td></tr><tr><td>N=</td><td>19632</td></tr></table>	VISIBILITY (NM)	%	<.5	5.2	.5 <1	5.2	1 <2	7.5	2 <5	14.8	5 <10	32.0	≥10	35.4	N=	19632	<div>King Salmon</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>1.3</td></tr><tr><td>.5 &lt;1</td><td>2.4</td></tr><tr><td>1 &lt;2</td><td>3.3</td></tr><tr><td>2 &lt;5</td><td>5.9</td></tr><tr><td>5 &lt;10</td><td>18.1</td></tr><tr><td>≥10</td><td>69.0</td></tr><tr><td>N=</td><td>19067</td></tr></table>	VISIBILITY (NM)	%	<.5	1.3	.5 <1	2.4	1 <2	3.3	2 <5	5.9	5 <10	18.1	≥10	69.0	N=	19067	<div>Port Heiden</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.1</td></tr><tr><td>.5 &lt;1</td><td>2.7</td></tr><tr><td>1 &lt;2</td><td>2.8</td></tr><tr><td>2 &lt;5</td><td>7.3</td></tr><tr><td>5 &lt;10</td><td>13.4</td></tr><tr><td>≥10</td><td>70.7</td></tr><tr><td>N=</td><td>2219</td></tr></table>	VISIBILITY (NM)	%	<.5	3.1	.5 <1	2.7	1 <2	2.8	2 <5	7.3	5 <10	13.4	≥10	70.7	N=	2219	<div>Cold Bay</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>2.9</td></tr><tr><td>.5 &lt;1</td><td>3.6</td></tr><tr><td>1 &lt;2</td><td>5.4</td></tr><tr><td>2 &lt;5</td><td>12.2</td></tr><tr><td>5 &lt;10</td><td>40.2</td></tr><tr><td>≥10</td><td>35.8</td></tr><tr><td>N=</td><td>13875</td></tr></table>	VISIBILITY (NM)	%	<.5	2.9	.5 <1	3.6	1 <2	5.4	2 <5	12.2	5 <10	40.2	≥10	35.8	N=	13875
VISIBILITY (NM)	%																																																																		
<.5	5.2																																																																		
.5 <1	5.2																																																																		
1 <2	7.5																																																																		
2 <5	14.8																																																																		
5 <10	32.0																																																																		
≥10	35.4																																																																		
N=	19632																																																																		
VISIBILITY (NM)	%																																																																		
<.5	1.3																																																																		
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2 <5	5.9																																																																		
5 <10	18.1																																																																		
≥10	69.0																																																																		
N=	19067																																																																		
VISIBILITY (NM)	%																																																																		
<.5	3.1																																																																		
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N=	13875																																																																		
<div>Nikolski</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>21.5</td></tr><tr><td>.5 &lt;1</td><td>1.4</td></tr><tr><td>1 &lt;2</td><td>0.9</td></tr><tr><td>2 &lt;5</td><td>4.9</td></tr><tr><td>5 &lt;10</td><td>32.5</td></tr><tr><td>≥10</td><td>38.8</td></tr><tr><td>N=</td><td>2228</td></tr></table>	VISIBILITY (NM)	%	<.5	21.5	.5 <1	1.4	1 <2	0.9	2 <5	4.9	5 <10	32.5	≥10	38.8	N=	2228	<div>St. Paul</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>8.9</td></tr><tr><td>.5 &lt;1</td><td>6.2</td></tr><tr><td>1 &lt;2</td><td>5.6</td></tr><tr><td>2 &lt;5</td><td>13.9</td></tr><tr><td>5 &lt;10</td><td>47.9</td></tr><tr><td>≥10</td><td>17.5</td></tr><tr><td>N=</td><td>11597</td></tr></table>	VISIBILITY (NM)	%	<.5	8.9	.5 <1	6.2	1 <2	5.6	2 <5	13.9	5 <10	47.9	≥10	17.5	N=	11597	<div>Adak</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>1.9</td></tr><tr><td>.5 &lt;1</td><td>2.5</td></tr><tr><td>1 &lt;2</td><td>4.5</td></tr><tr><td>2 &lt;5</td><td>19.2</td></tr><tr><td>5 &lt;10</td><td>66.0</td></tr><tr><td>≥10</td><td>5.8</td></tr><tr><td>N=</td><td>22123</td></tr></table>	VISIBILITY (NM)	%	<.5	1.9	.5 <1	2.5	1 <2	4.5	2 <5	19.2	5 <10	66.0	≥10	5.8	N=	22123	<div>Shemya</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.8</td></tr><tr><td>.5 &lt;1</td><td>4.8</td></tr><tr><td>1 &lt;2</td><td>7.2</td></tr><tr><td>2 &lt;5</td><td>16.1</td></tr><tr><td>5 &lt;10</td><td>45.9</td></tr><tr><td>≥10</td><td>22.1</td></tr><tr><td>N=</td><td>19367</td></tr></table>	VISIBILITY (NM)	%	<.5	3.8	.5 <1	4.8	1 <2	7.2	2 <5	16.1	5 <10	45.9	≥10	22.1	N=	19367
VISIBILITY (NM)	%																																																																		
<.5	21.5																																																																		
.5 <1	1.4																																																																		
1 <2	0.9																																																																		
2 <5	4.9																																																																		
5 <10	32.5																																																																		
≥10	38.8																																																																		
N=	2228																																																																		
VISIBILITY (NM)	%																																																																		
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.5 <1	6.2																																																																		
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VISIBILITY (NM)	%																																																																		
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N=	19367																																																																		

March

5 Visibility Thresholds



## 5 Visibility Thresholds

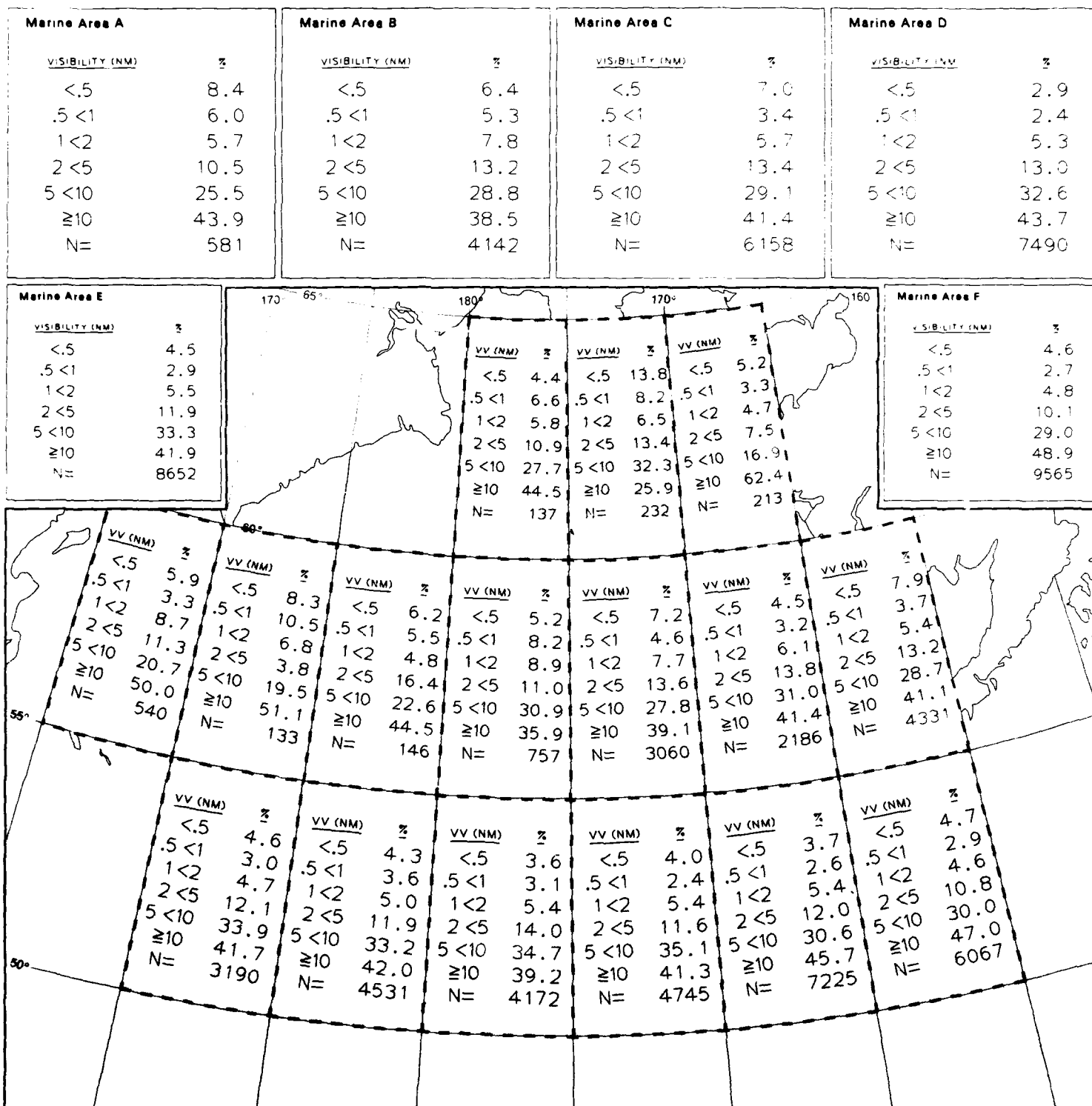
## March



<div>Nikol'skoe</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>4.3</td></tr><tr><td>.5 &lt;1</td><td>2.2</td></tr><tr><td>1 &lt;2</td><td>5.0</td></tr><tr><td>2 &lt;5</td><td>10.9</td></tr><tr><td>5 &lt;10</td><td>13.2</td></tr><tr><td>≥10</td><td>64.4</td></tr><tr><td>N=</td><td>5629</td></tr></table>	VISIBILITY (NM)	%	<.5	4.3	.5 <1	2.2	1 <2	5.0	2 <5	10.9	5 <10	13.2	≥10	64.4	N=	5629	<div>Khatirka-In-Chukot</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.5</td></tr><tr><td>.5 &lt;1</td><td>2.3</td></tr><tr><td>1 &lt;2</td><td>4.6</td></tr><tr><td>2 &lt;5</td><td>8.4</td></tr><tr><td>5 &lt;10</td><td>6.4</td></tr><tr><td>≥10</td><td>74.7</td></tr><tr><td>N=</td><td>3804</td></tr></table>	VISIBILITY (NM)	%	<.5	3.5	.5 <1	2.3	1 <2	4.6	2 <5	8.4	5 <10	6.4	≥10	74.7	N=	3804	<div>Ugol'naja</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>6.2</td></tr><tr><td>.5 &lt;1</td><td>4.0</td></tr><tr><td>1 &lt;2</td><td>6.2</td></tr><tr><td>2 &lt;5</td><td>9.2</td></tr><tr><td>5 &lt;10</td><td>11.7</td></tr><tr><td>≥10</td><td>62.8</td></tr><tr><td>N=</td><td>5185</td></tr></table>	VISIBILITY (NM)	%	<.5	6.2	.5 <1	4.0	1 <2	6.2	2 <5	9.2	5 <10	11.7	≥10	62.8	N=	5185	<div>Buhta Providenja</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>2.6</td></tr><tr><td>.5 &lt;1</td><td>2.7</td></tr><tr><td>1 &lt;2</td><td>5.3</td></tr><tr><td>2 &lt;5</td><td>10.4</td></tr><tr><td>5 &lt;10</td><td>13.4</td></tr><tr><td>≥10</td><td>65.7</td></tr><tr><td>N=</td><td>4682</td></tr></table>	VISIBILITY (NM)	%	<.5	2.6	.5 <1	2.7	1 <2	5.3	2 <5	10.4	5 <10	13.4	≥10	65.7	N=	4682
VISIBILITY (NM)	%																																																																		
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<div>Northeast Cape</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>4.7</td></tr><tr><td>.5 &lt;1</td><td>5.2</td></tr><tr><td>1 &lt;2</td><td>9.8</td></tr><tr><td>2 &lt;5</td><td>14.3</td></tr><tr><td>5 &lt;10</td><td>31.6</td></tr><tr><td>≥10</td><td>34.4</td></tr><tr><td>N=</td><td>10105</td></tr></table>	VISIBILITY (NM)	%	<.5	4.7	.5 <1	5.2	1 <2	9.8	2 <5	14.3	5 <10	31.6	≥10	34.4	N=	10105	<div>Nome</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>2.0</td></tr><tr><td>.5 &lt;1</td><td>3.7</td></tr><tr><td>1 &lt;2</td><td>5.0</td></tr><tr><td>2 &lt;5</td><td>10.5</td></tr><tr><td>5 &lt;10</td><td>16.3</td></tr><tr><td>≥10</td><td>62.5</td></tr><tr><td>N=</td><td>21334</td></tr></table>	VISIBILITY (NM)	%	<.5	2.0	.5 <1	3.7	1 <2	5.0	2 <5	10.5	5 <10	16.3	≥10	62.5	N=	21334	<div>Unalakleet</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>1.4</td></tr><tr><td>.5 &lt;1</td><td>1.9</td></tr><tr><td>1 &lt;2</td><td>1.8</td></tr><tr><td>2 &lt;5</td><td>4.7</td></tr><tr><td>5 &lt;10</td><td>15.0</td></tr><tr><td>≥10</td><td>75.2</td></tr><tr><td>N=</td><td>14615</td></tr></table>	VISIBILITY (NM)	%	<.5	1.4	.5 <1	1.9	1 <2	1.8	2 <5	4.7	5 <10	15.0	≥10	75.2	N=	14615	<div>Cape Romanzof</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>7.3</td></tr><tr><td>.5 &lt;1</td><td>8.3</td></tr><tr><td>1 &lt;2</td><td>6.7</td></tr><tr><td>2 &lt;5</td><td>14.7</td></tr><tr><td>5 &lt;10</td><td>30.0</td></tr><tr><td>≥10</td><td>33.0</td></tr><tr><td>N=</td><td>18729</td></tr></table>	VISIBILITY (NM)	%	<.5	7.3	.5 <1	8.3	1 <2	6.7	2 <5	14.7	5 <10	30.0	≥10	33.0	N=	18729
VISIBILITY (NM)	%																																																																		
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<div>Cape Newenham</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>4.6</td></tr><tr><td>.5 &lt;1</td><td>5.0</td></tr><tr><td>1 &lt;2</td><td>7.5</td></tr><tr><td>2 &lt;5</td><td>17.1</td></tr><tr><td>5 &lt;10</td><td>30.8</td></tr><tr><td>≥10</td><td>35.0</td></tr><tr><td>N=</td><td>19132</td></tr></table>	VISIBILITY (NM)	%	<.5	4.6	.5 <1	5.0	1 <2	7.5	2 <5	17.1	5 <10	30.8	≥10	35.0	N=	19132	<div>King Salmon</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>0.8</td></tr><tr><td>.5 &lt;1</td><td>1.5</td></tr><tr><td>1 &lt;2</td><td>2.9</td></tr><tr><td>2 &lt;5</td><td>6.0</td></tr><tr><td>5 &lt;10</td><td>16.8</td></tr><tr><td>≥10</td><td>72.0</td></tr><tr><td>N=</td><td>18476</td></tr></table>	VISIBILITY (NM)	%	<.5	0.8	.5 <1	1.5	1 <2	2.9	2 <5	6.0	5 <10	16.8	≥10	72.0	N=	18476	<div>Port Heiden</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.4</td></tr><tr><td>.5 &lt;1</td><td>3.0</td></tr><tr><td>1 &lt;2</td><td>2.7</td></tr><tr><td>2 &lt;5</td><td>8.4</td></tr><tr><td>5 &lt;10</td><td>13.2</td></tr><tr><td>≥10</td><td>69.3</td></tr><tr><td>N=</td><td>2119</td></tr></table>	VISIBILITY (NM)	%	<.5	3.4	.5 <1	3.0	1 <2	2.7	2 <5	8.4	5 <10	13.2	≥10	69.3	N=	2119	<div>Cold Bay</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>1.9</td></tr><tr><td>.5 &lt;1</td><td>2.6</td></tr><tr><td>1 &lt;2</td><td>4.8</td></tr><tr><td>2 &lt;5</td><td>14.8</td></tr><tr><td>5 &lt;10</td><td>39.7</td></tr><tr><td>≥10</td><td>36.2</td></tr><tr><td>N=</td><td>13435</td></tr></table>	VISIBILITY (NM)	%	<.5	1.9	.5 <1	2.6	1 <2	4.8	2 <5	14.8	5 <10	39.7	≥10	36.2	N=	13435
VISIBILITY (NM)	%																																																																		
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<div>Nikolski</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>20.3</td></tr><tr><td>.5 &lt;1</td><td>1.5</td></tr><tr><td>1 &lt;2</td><td>1.2</td></tr><tr><td>2 &lt;5</td><td>4.9</td></tr><tr><td>5 &lt;10</td><td>33.5</td></tr><tr><td>≥10</td><td>38.6</td></tr><tr><td>N=</td><td>2148</td></tr></table>	VISIBILITY (NM)	%	<.5	20.3	.5 <1	1.5	1 <2	1.2	2 <5	4.9	5 <10	33.5	≥10	38.6	N=	2148	<div>St. Paul</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>6.4</td></tr><tr><td>.5 &lt;1</td><td>5.0</td></tr><tr><td>1 &lt;2</td><td>5.7</td></tr><tr><td>2 &lt;5</td><td>15.1</td></tr><tr><td>5 &lt;10</td><td>49.9</td></tr><tr><td>≥10</td><td>17.9</td></tr><tr><td>N=</td><td>11096</td></tr></table>	VISIBILITY (NM)	%	<.5	6.4	.5 <1	5.0	1 <2	5.7	2 <5	15.1	5 <10	49.9	≥10	17.9	N=	11096	<div>Adak</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>0.7</td></tr><tr><td>.5 &lt;1</td><td>1.4</td></tr><tr><td>1 &lt;2</td><td>4.0</td></tr><tr><td>2 &lt;5</td><td>19.8</td></tr><tr><td>5 &lt;10</td><td>67.8</td></tr><tr><td>≥10</td><td>6.2</td></tr><tr><td>N=</td><td>22216</td></tr></table>	VISIBILITY (NM)	%	<.5	0.7	.5 <1	1.4	1 <2	4.0	2 <5	19.8	5 <10	67.8	≥10	6.2	N=	22216	<div>Shemya</div> <table><tr><th>VISIBILITY (NM)</th><th>%</th></tr><tr><td>&lt;.5</td><td>3.1</td></tr><tr><td>.5 &lt;1</td><td>5.0</td></tr><tr><td>1 &lt;2</td><td>7.4</td></tr><tr><td>2 &lt;5</td><td>15.6</td></tr><tr><td>5 &lt;10</td><td>42.6</td></tr><tr><td>≥10</td><td>26.4</td></tr><tr><td>N=</td><td>18724</td></tr></table>	VISIBILITY (NM)	%	<.5	3.1	.5 <1	5.0	1 <2	7.4	2 <5	15.6	5 <10	42.6	≥10	26.4	N=	18724
VISIBILITY (NM)	%																																																																		
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April

5 Visibility Thresholds



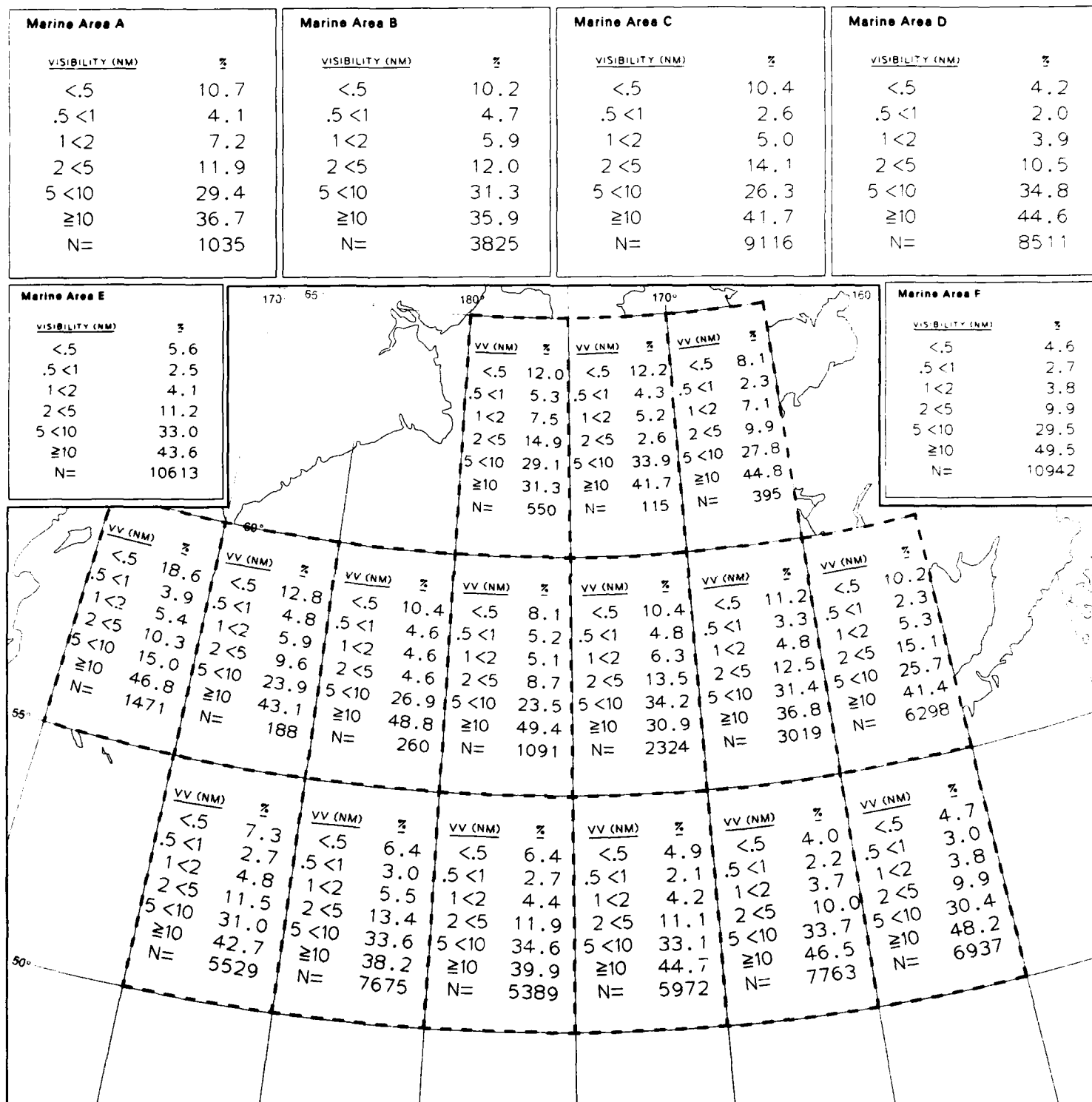
5 Visibility Thresholds

Apr

<b>Nikol'skoe</b> <u>VISIBILITY (NM)</u> % <.5                      8.4 .5 <1                    0.9 1 <2                    1.9 2 <5                    9.1 5 <10                   15.7 ≥10                    64.0 N=                      5710	<b>Khatirka-In-Chukot</b> <u>VISIBILITY (NM)</u> % <.5                      8.8 .5 <1                    1.4 1 <2                    4.9 2 <5                    8.8 5 <10                   8.0 ≥10                    68.2 N=                      3508	<b>Ugol'naia</b> <u>VISIBILITY (NM)</u> % <.5                      6.5 .5 <1                    2.0 1 <2                    5.3 2 <5                    8.7 5 <10                   11.6 ≥10                    65.8 N=                      5057	<b>Buhta Providenja</b> <u>VISIBILITY (NM)</u> % <.5                      2.5 .5 <1                    1.9 1 <2                    5.8 2 <5                    11.7 5 <10                   13.7 ≥10                    64.3 N=                      4716
<b>Northeast Cape</b> <u>VISIBILITY (NM)</u> % <.5                      4.0 .5 <1                    4.5 1 <2                    6.8 2 <5                    13.1 5 <10                   30.2 ≥10                    41.3 N=                      10469	<b>Nome</b> <u>VISIBILITY (NM)</u> % <.5                      1.8 .5 <1                    2.2 1 <2                    3.7 2 <5                    6.8 5 <10                   12.2 ≥10                    73.3 N=                      21321	<b>Unalakleet</b> <u>VISIBILITY (NM)</u> % <.5                      1.6 .5 <1                    1.3 1 <2                    1.2 2 <5                    3.0 5 <10                   7.7 ≥10                    85.2 N=                      14942	<b>Cape Romanzof</b> <u>VISIBILITY (NM)</u> % <.5                      3.8 .5 <1                    4.2 1 <2                    4.8 2 <5                    10.6 5 <10                   27.0 ≥10                    49.6 N=                      18927
<b>Cape Newenham</b> <u>VISIBILITY (NM)</u> % <.5                      4.5 .5 <1                    4.1 1 <2                    5.7 2 <5                    11.1 5 <10                   22.6 ≥10                    52.0 N=                      19659	<b>King Salmon</b> <u>VISIBILITY (NM)</u> % <.5                      1.4 .5 <1                    0.7 1 <2                    1.2 2 <5                    3.4 5 <10                   13.6 ≥10                    79.7 N=                      18359	<b>Port Heiden</b> <u>VISIBILITY (NM)</u> % <.5                      2.1 .5 <1                    1.7 1 <2                    2.1 2 <5                    5.4 5 <10                   8.3 ≥10                    80.3 N=                      2120	<b>Cold Bay</b> <u>VISIBILITY (NM)</u> % <.5                      1.1 .5 <1                    1.3 1 <2                    2.4 2 <5                    9.6 5 <10                   39.2 ≥10                    46.4 N=                      13153
<b>Nikolski</b> <u>VISIBILITY (NM)</u> % <.5                      26.0 .5 <1                    1.4 1 <2                    1.1 2 <5                    4.6 5 <10                   30.5 ≥10                    36.3 N=                      2200	<b>St. Paul</b> <u>VISIBILITY (NM)</u> % <.5                      7.2 .5 <1                    5.8 1 <2                    6.0 2 <5                    15.3 5 <10                   47.4 ≥10                    18.3 N=                      10506	<b>Adak</b> <u>VISIBILITY (NM)</u> % <.5                      0.2 .5 <1                    0.6 1 <2                    2.6 2 <5                    19.2 5 <10                   70.9 ≥10                    6.4 N=                      22293	<b>Shemya</b> <u>VISIBILITY (NM)</u> % <.5                      5.8 .5 <1                    4.9 1 <2                    5.7 2 <5                    15.5 5 <10                   41.3 ≥10                    26.9 N=                      18906

May

5 Visibility Thresholds



5 Visibility Thresholds

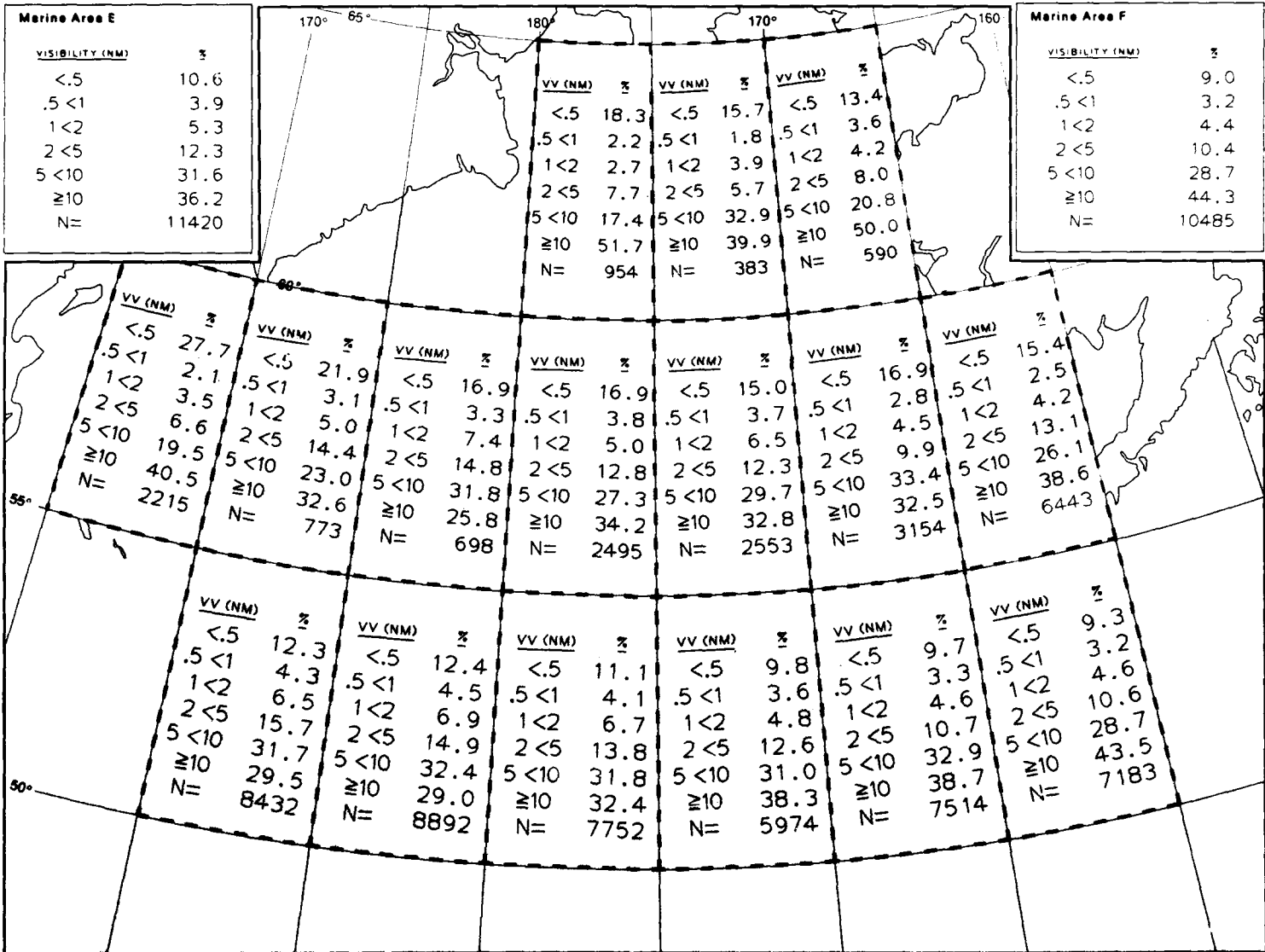
May

<b>Nikol'skoe</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>16.9</td></tr><tr><td>.5 &lt;1</td><td>0.6</td></tr><tr><td>1 &lt;2</td><td>1.7</td></tr><tr><td>2 &lt;5</td><td>9.1</td></tr><tr><td>5 &lt;10</td><td>15.9</td></tr><tr><td>≥10</td><td>55.9</td></tr><tr><td>N=</td><td>5502</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	16.9	.5 <1	0.6	1 <2	1.7	2 <5	9.1	5 <10	15.9	≥10	55.9	N=	5502	<b>Khetirka-In-Chukot</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>15.9</td></tr><tr><td>.5 &lt;1</td><td>0.7</td></tr><tr><td>1 &lt;2</td><td>3.0</td></tr><tr><td>2 &lt;5</td><td>8.3</td></tr><tr><td>5 &lt;10</td><td>8.1</td></tr><tr><td>≥10</td><td>64.0</td></tr><tr><td>N=</td><td>3448</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	15.9	.5 <1	0.7	1 <2	3.0	2 <5	8.3	5 <10	8.1	≥10	64.0	N=	3448	<b>Ugol'naja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>10.0</td></tr><tr><td>.5 &lt;1</td><td>0.8</td></tr><tr><td>1 &lt;2</td><td>1.8</td></tr><tr><td>2 &lt;5</td><td>5.1</td></tr><tr><td>5 &lt;10</td><td>8.6</td></tr><tr><td>≥10</td><td>73.7</td></tr><tr><td>N=</td><td>4902</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	10.0	.5 <1	0.8	1 <2	1.8	2 <5	5.1	5 <10	8.6	≥10	73.7	N=	4902	<b>Buhta Providenja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>5.7</td></tr><tr><td>.5 &lt;1</td><td>2.1</td></tr><tr><td>1 &lt;2</td><td>8.6</td></tr><tr><td>2 &lt;5</td><td>12.0</td></tr><tr><td>5 &lt;10</td><td>10.4</td></tr><tr><td>≥10</td><td>61.3</td></tr><tr><td>N=</td><td>4534</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	5.7	.5 <1	2.1	1 <2	8.6	2 <5	12.0	5 <10	10.4	≥10	61.3	N=	4534
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<b>Nikolski</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>42.0</td></tr><tr><td>.5 &lt;1</td><td>1.5</td></tr><tr><td>1 &lt;2</td><td>1.6</td></tr><tr><td>2 &lt;5</td><td>6.3</td></tr><tr><td>5 &lt;10</td><td>19.1</td></tr><tr><td>≥10</td><td>29.4</td></tr><tr><td>N=</td><td>2200</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	42.0	.5 <1	1.5	1 <2	1.6	2 <5	6.3	5 <10	19.1	≥10	29.4	N=	2200	<b>St. Paul</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>11.9</td></tr><tr><td>.5 &lt;1</td><td>6.8</td></tr><tr><td>1 &lt;2</td><td>6.3</td></tr><tr><td>2 &lt;5</td><td>14.8</td></tr><tr><td>5 &lt;10</td><td>44.8</td></tr><tr><td>≥10</td><td>15.4</td></tr><tr><td>N=</td><td>10026</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	11.9	.5 <1	6.8	1 <2	6.3	2 <5	14.8	5 <10	44.8	≥10	15.4	N=	10026	<b>Adak</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>0.9</td></tr><tr><td>.5 &lt;1</td><td>1.4</td></tr><tr><td>1 &lt;2</td><td>3.7</td></tr><tr><td>2 &lt;5</td><td>21.2</td></tr><tr><td>5 &lt;10</td><td>65.9</td></tr><tr><td>≥10</td><td>6.8</td></tr><tr><td>N=</td><td>21504</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	0.9	.5 <1	1.4	1 <2	3.7	2 <5	21.2	5 <10	65.9	≥10	6.8	N=	21504	<b>Shemya</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>15.1</td></tr><tr><td>.5 &lt;1</td><td>7.6</td></tr><tr><td>1 &lt;2</td><td>8.8</td></tr><tr><td>2 &lt;5</td><td>16.0</td></tr><tr><td>5 &lt;10</td><td>31.8</td></tr><tr><td>≥10</td><td>20.5</td></tr><tr><td>N=</td><td>18421</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	15.1	.5 <1	7.6	1 <2	8.8	2 <5	16.0	5 <10	31.8	≥10	20.5	N=	18421
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June

5 Visibility Thresholds

Marine Area A		Marine Area B		Marine Area C		Marine Area D	
VISIBILITY (NM)	%	VISIBILITY (NM)	%	VISIBILITY (NM)	%	VISIBILITY (NM)	%
<.5	15.2	<.5	16.2	<.5	15.2	<.5	9.8
.5 <1	2.8	.5 <1	3.6	.5 <1	2.6	.5 <1	3.5
1 <2	3.3	1 <2	5.7	1 <2	4.1	1 <2	5.6
2 <5	7.6	2 <5	12.2	2 <5	12.2	2 <5	12.5
5 <10	23.7	5 <10	29.3	5 <10	27.9	5 <10	32.4
≥10	47.3	≥10	33.0	≥10	38.0	≥10	36.3
N=	1692	N=	5590	N=	9920	N=	9820

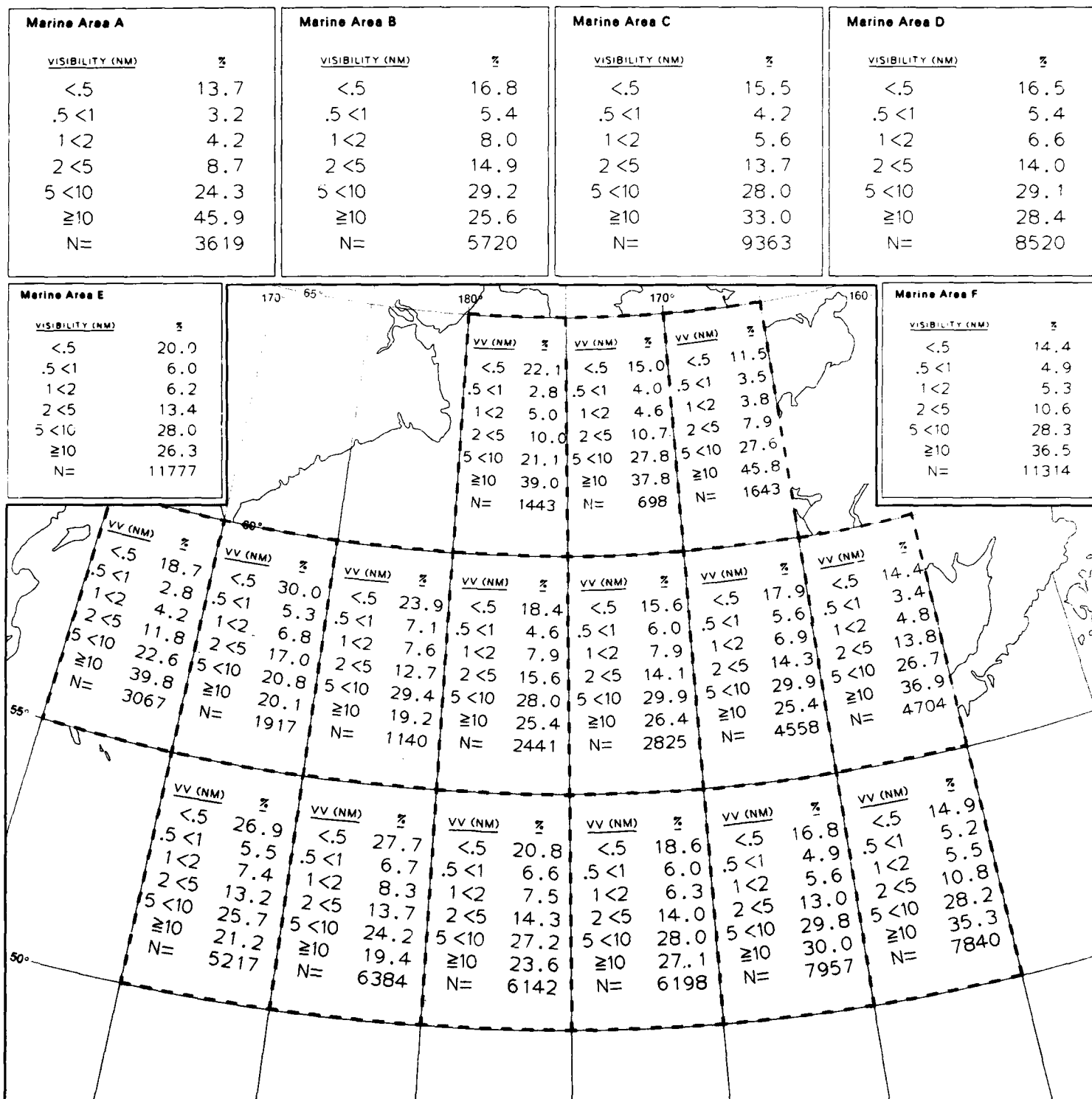


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<b>Nikol'skoe</b> <u>VISIBILITY (NM)</u> % <.5      25.3 .5 <1      0.6 1 <2      2.1 2 <5      12.8 5 <10      13.7 ≥10      45.5 N=      5409	<b>Khatirka-In-Chukot</b> <u>VISIBILITY (NM)</u> % <.5      22.4 .5 <1      0.5 1 <2      3.8 2 <5      8.5 5 <10      8.3 ≥10      56.5 N=      3296	<b>Ugol'naja</b> <u>VISIBILITY (NM)</u> % <.5      10.9 .5 <1      1.0 1 <2      2.0 2 <5      5.5 5 <10      8.4 ≥10      72.3 N=      4981	<b>Buhta Providenja</b> <u>VISIBILITY (NM)</u> % <.5      4.6 .5 <1      2.1 1 <2      10.6 2 <5      12.6 5 <10      12.0 ≥10      58.1 N=      4458
<b>Northeast Cape</b> <u>VISIBILITY (NM)</u> % <.5      4.1 .5 <1      3.8 1 <2      6.8 2 <5      14.6 5 <10      30.1 ≥10      40.7 N=      10653	<b>Nome</b> <u>VISIBILITY (NM)</u> % <.5      1.5 .5 <1      2.6 1 <2      5.4 2 <5      9.9 5 <10      16.5 ≥10      64.1 N=      21311	<b>Unalakleet</b> <u>VISIBILITY (NM)</u> % <.5      0.5 .5 <1      0.7 1 <2      1.4 2 <5      3.2 5 <10      12.1 ≥10      82.2 N=      15878	<b>Cape Romanzof</b> <u>VISIBILITY (NM)</u> % <.5      5.1 .5 <1      4.7 1 <2      3.8 2 <5      12.2 5 <10      31.7 ≥10      42.6 N=      18733
<b>Cape Newenham</b> <u>VISIBILITY (NM)</u> % <.5      5.4 .5 <1      4.9 1 <2      8.1 2 <5      17.6 5 <10      23.0 ≥10      41.0 N=      19518	<b>King Salmon</b> <u>VISIBILITY (NM)</u> % <.5      2.4 .5 <1      1.3 1 <2      3.0 2 <5      7.0 5 <10      16.4 ≥10      69.9 N=      18345	<b>Port Heiden</b> <u>VISIBILITY (NM)</u> % <.5      2.9 .5 <1      4.7 1 <2      3.5 2 <5      9.5 5 <10      10.5 ≥10      68.9 N=      1990	<b>Cold Bay</b> <u>VISIBILITY (NM)</u> % <.5      2.6 .5 <1      2.6 1 <2      5.6 2 <5      13.7 5 <10      37.0 ≥10      38.7 N=      13868
<b>Nikolski</b> <u>VISIBILITY (NM)</u> % <.5      67.9 .5 <1      1.8 1 <2      0.6 2 <5      3.9 5 <10      9.2 ≥10      16.5 N=      2485	<b>St. Paul</b> <u>VISIBILITY (NM)</u> % <.5      18.3 .5 <1      9.0 1 <2      9.4 2 <5      18.1 5 <10      34.7 ≥10      10.6 N=      10322	<b>Adek</b> <u>VISIBILITY (NM)</u> % <.5      1.8 .5 <1      2.4 1 <2      6.4 2 <5      25.7 5 <10      57.4 ≥10      6.3 N=      22117	<b>Shemya</b> <u>VISIBILITY (NM)</u> % <.5      28.2 .5 <1      11.1 1 <2      10.6 2 <5      15.6 5 <10      21.8 ≥10      12.6 N=      19082

July

5 Visibility Thresholds



5 Visibility Thresholds

July



<b>Nikel'skoe</b> <u>VISIBILITY (NM)</u> % <.5      15.2 .5 <1      0.4 1 <2      2.5 2 <5      10.9 5 <10      15.1 ≥10      55.9 N=      5334	<b>Khetirka-In-Chukot</b> <u>VISIBILITY (NM)</u> % <.5      15.0 .5 <1      0.3 1 <2      3.9 2 <5      10.6 5 <10      9.5 ≥10      60.7 N=      3318	<b>Ugol'neja</b> <u>VISIBILITY (NM)</u> % <.5      8.4 .5 <1      0.7 1 <2      3.2 2 <5      7.1 5 <10      12.8 ≥10      67.8 N=      4877	<b>Buhta Providenja</b> <u>VISIBILITY (NM)</u> % <.5      2.7 .5 <1      1.3 1 <2      7.0 2 <5      12.6 5 <10      15.0 ≥10      61.5 N=      4520
<b>Northeast Cape</b> <u>VISIBILITY (NM)</u> % <.5      3.3 .5 <1      3.0 1 <2      7.4 2 <5      16.2 5 <10      32.4 ≥10      37.7 N=      10877	<b>Nome</b> <u>VISIBILITY (NM)</u> % <.5      0.8 .5 <1      2.1 1 <2      5.1 2 <5      10.7 5 <10      19.7 ≥10      61.5 N=      21799	<b>Unalakleet</b> <u>VISIBILITY (NM)</u> % <.5      0.3 .5 <1      0.6 1 <2      1.6 2 <5      3.8 5 <10      15.5 ≥10      78.3 N=      15788	<b>Cape Romanzof</b> <u>VISIBILITY (NM)</u> % <.5      2.9 .5 <1      4.8 1 <2      4.3 2 <5      13.0 5 <10      30.7 ≥10      44.3 N=      18816
<b>Cape Newenham</b> <u>VISIBILITY (NM)</u> % <.5      4.0 .5 <1      5.0 1 <2      7.2 2 <5      17.4 5 <10      24.4 ≥10      42.1 N=      20133	<b>King Salmon</b> <u>VISIBILITY (NM)</u> % <.5      2.5 .5 <1      1.6 1 <2      3.3 2 <5      8.7 5 <10      21.2 ≥10      62.8 N=      18828	<b>Port Heiden</b> <u>VISIBILITY (NM)</u> % <.5      3.6 .5 <1      3.9 1 <2      4.0 2 <5      9.7 5 <10      11.8 ≥10      67.0 N=      2005	<b>Cold Bay</b> <u>VISIBILITY (NM)</u> % <.5      1.8 .5 <1      3.4 1 <2      7.0 2 <5      15.5 5 <10      38.2 ≥10      34.0 N=      14376
<b>Nikolski</b> <u>VISIBILITY (NM)</u> % <.5      58.5 .5 <1      1.5 1 <2      1.3 2 <5      3.8 5 <10      14.9 ≥10      20.0 N=      2476	<b>St. Paul</b> <u>VISIBILITY (NM)</u> % <.5      13.0 .5 <1      7.9 1 <2      8.5 2 <5      17.1 5 <10      41.3 ≥10      12.1 N=      11089	<b>Adak</b> <u>VISIBILITY (NM)</u> % <.5      1.9 .5 <1      2.2 1 <2      6.4 2 <5      25.4 5 <10      58.1 ≥10      6.0 N=      22130	<b>Shemya</b> <u>VISIBILITY (NM)</u> % <.5      24.6 .5 <1      10.0 1 <2      9.0 2 <5      14.5 5 <10      25.0 ≥10      16.8 N=      19015

August

5 Visibility Thresholds

**Marine Area A**

VISIBILITY (NM)	%
<.5	9.2
.5 <1	4.0
1 <2	4.5
2 <5	10.7
5 <10	23.3
≥10	48.3
N=	3710

**Marine Area B**

VISIBILITY (NM)	%
<.5	13.9
.5 <1	6.0
1 <2	7.3
2 <5	15.3
5 <10	26.5
≥10	31.1
N=	3510

**Marine Area C**

VISIBILITY (NM)	%
<.5	11.9
.5 <1	4.0
1 <2	6.0
2 <5	16.8
5 <10	29.8
≥10	31.5
N=	8097

**Marine Area D**

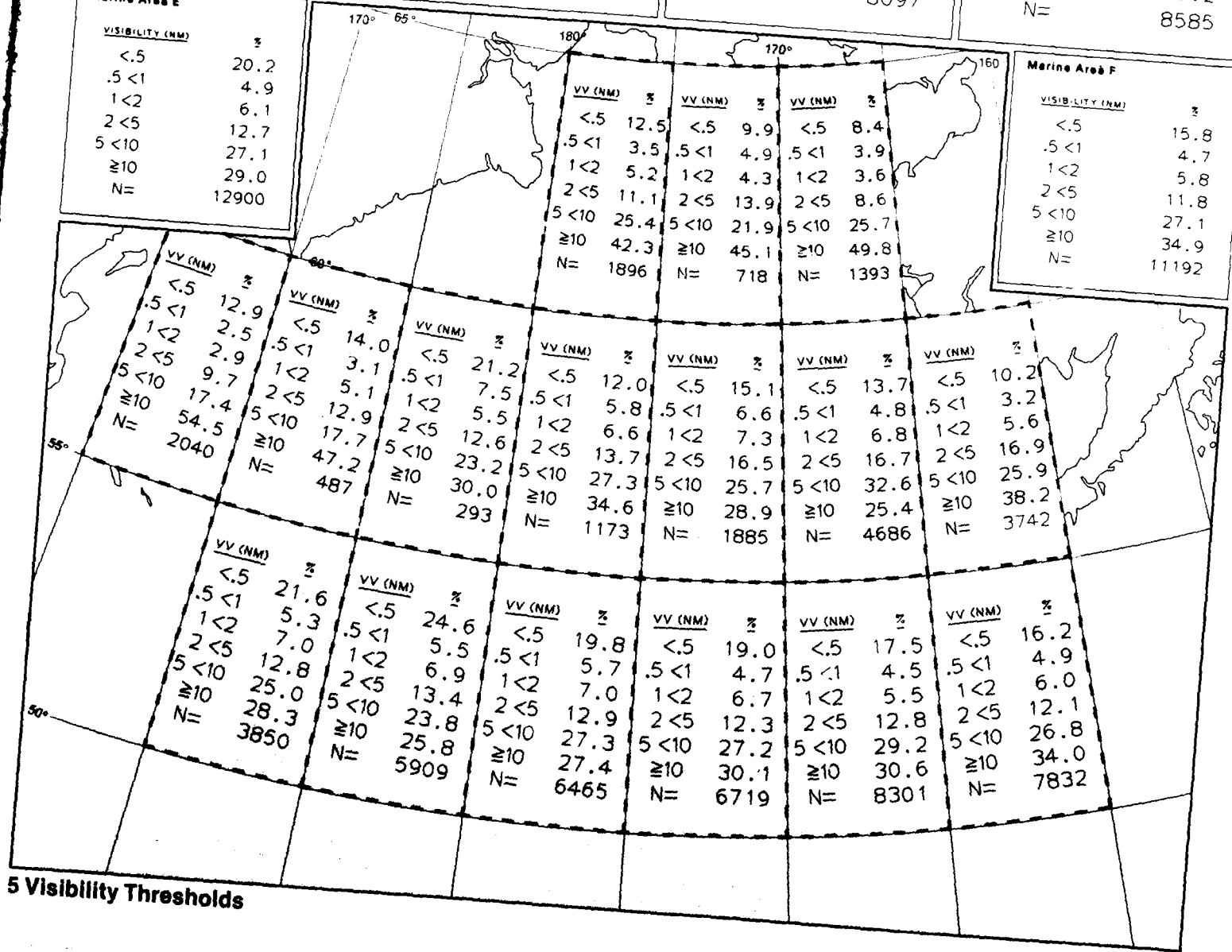
VISIBILITY (NM)	%
<.5	16.4
.5 <1	4.8
1 <2	6.7
2 <5	12.5
5 <10	29.4
≥10	30.2
N=	8585

**Marine Area E**

VISIBILITY (NM)	%
<.5	20.2
.5 <1	4.9
1 <2	6.1
2 <5	12.7
5 <10	27.1
≥10	29.0
N=	12900

**Marine Area F**

VISIBILITY (NM)	%
<.5	15.8
.5 <1	4.7
1 <2	5.8
2 <5	11.8
5 <10	27.1
≥10	34.9
N=	11192



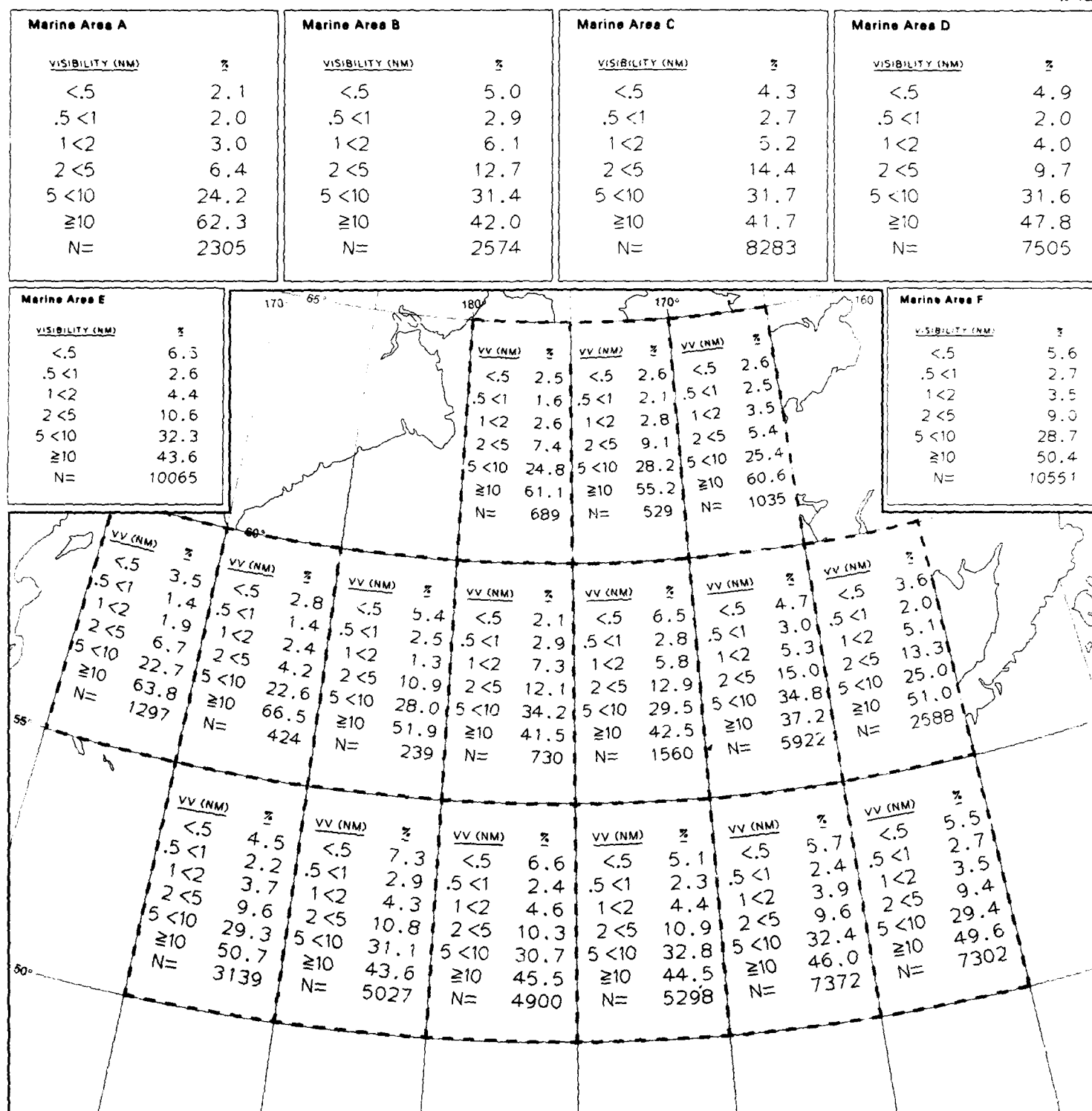
5 Visibility Thresholds

August

<b>Nikol'skoe</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>4.7</td></tr><tr><td>.5 &lt;1</td><td>0.2</td></tr><tr><td>1 &lt;2</td><td>0.9</td></tr><tr><td>2 &lt;5</td><td>7.3</td></tr><tr><td>5 &lt;10</td><td>14.3</td></tr><tr><td>≥10</td><td>72.5</td></tr><tr><td>N=</td><td>5294</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	4.7	.5 <1	0.2	1 <2	0.9	2 <5	7.3	5 <10	14.3	≥10	72.5	N=	5294	<b>Khatirka-In-Chukot</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>6.4</td></tr><tr><td>.5 &lt;1</td><td>0.3</td></tr><tr><td>1 &lt;2</td><td>2.4</td></tr><tr><td>2 &lt;5</td><td>7.9</td></tr><tr><td>5 &lt;10</td><td>6.3</td></tr><tr><td>≥10</td><td>76.8</td></tr><tr><td>N=</td><td>3190</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	6.4	.5 <1	0.3	1 <2	2.4	2 <5	7.9	5 <10	6.3	≥10	76.8	N=	3190	<b>Ugol'naja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.5</td></tr><tr><td>.5 &lt;1</td><td>0.5</td></tr><tr><td>1 &lt;2</td><td>2.1</td></tr><tr><td>2 &lt;5</td><td>7.5</td></tr><tr><td>5 &lt;10</td><td>15.8</td></tr><tr><td>≥10</td><td>71.6</td></tr><tr><td>N=</td><td>4824</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.5	.5 <1	0.5	1 <2	2.1	2 <5	7.5	5 <10	15.8	≥10	71.6	N=	4824	<b>Buhta Providenja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>0.9</td></tr><tr><td>.5 &lt;1</td><td>0.7</td></tr><tr><td>1 &lt;2</td><td>3.6</td></tr><tr><td>2 &lt;5</td><td>8.7</td></tr><tr><td>5 &lt;10</td><td>13.9</td></tr><tr><td>≥10</td><td>72.1</td></tr><tr><td>N=</td><td>4337</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	0.9	.5 <1	0.7	1 <2	3.6	2 <5	8.7	5 <10	13.9	≥10	72.1	N=	4337
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<b>Nikolski</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>32.8</td></tr><tr><td>.5 &lt;1</td><td>0.9</td></tr><tr><td>1 &lt;2</td><td>0.7</td></tr><tr><td>2 &lt;5</td><td>4.7</td></tr><tr><td>5 &lt;10</td><td>23.3</td></tr><tr><td>≥10</td><td>37.5</td></tr><tr><td>N=</td><td>2382</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	32.8	.5 <1	0.9	1 <2	0.7	2 <5	4.7	5 <10	23.3	≥10	37.5	N=	2382	<b>St. Paul</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>5.1</td></tr><tr><td>.5 &lt;1</td><td>3.5</td></tr><tr><td>1 &lt;2</td><td>4.6</td></tr><tr><td>2 &lt;5</td><td>11.1</td></tr><tr><td>5 &lt;10</td><td>57.5</td></tr><tr><td>≥10</td><td>18.1</td></tr><tr><td>N=</td><td>10315</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	5.1	.5 <1	3.5	1 <2	4.6	2 <5	11.1	5 <10	57.5	≥10	18.1	N=	10315	<b>Adak</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>0.3</td></tr><tr><td>.5 &lt;1</td><td>1.3</td></tr><tr><td>1 &lt;2</td><td>4.1</td></tr><tr><td>2 &lt;5</td><td>21.0</td></tr><tr><td>5 &lt;10</td><td>65.8</td></tr><tr><td>≥10</td><td>7.5</td></tr><tr><td>N=</td><td>21505</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	0.3	.5 <1	1.3	1 <2	4.1	2 <5	21.0	5 <10	65.8	≥10	7.5	N=	21505	<b>Shemya</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>5.3</td></tr><tr><td>.5 &lt;1</td><td>4.3</td></tr><tr><td>1 &lt;2</td><td>5.5</td></tr><tr><td>2 &lt;5</td><td>11.4</td></tr><tr><td>5 &lt;10</td><td>41.2</td></tr><tr><td>≥10</td><td>32.3</td></tr><tr><td>N=</td><td>18936</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	5.3	.5 <1	4.3	1 <2	5.5	2 <5	11.4	5 <10	41.2	≥10	32.3	N=	18936
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September

5 Visibility Thresholds



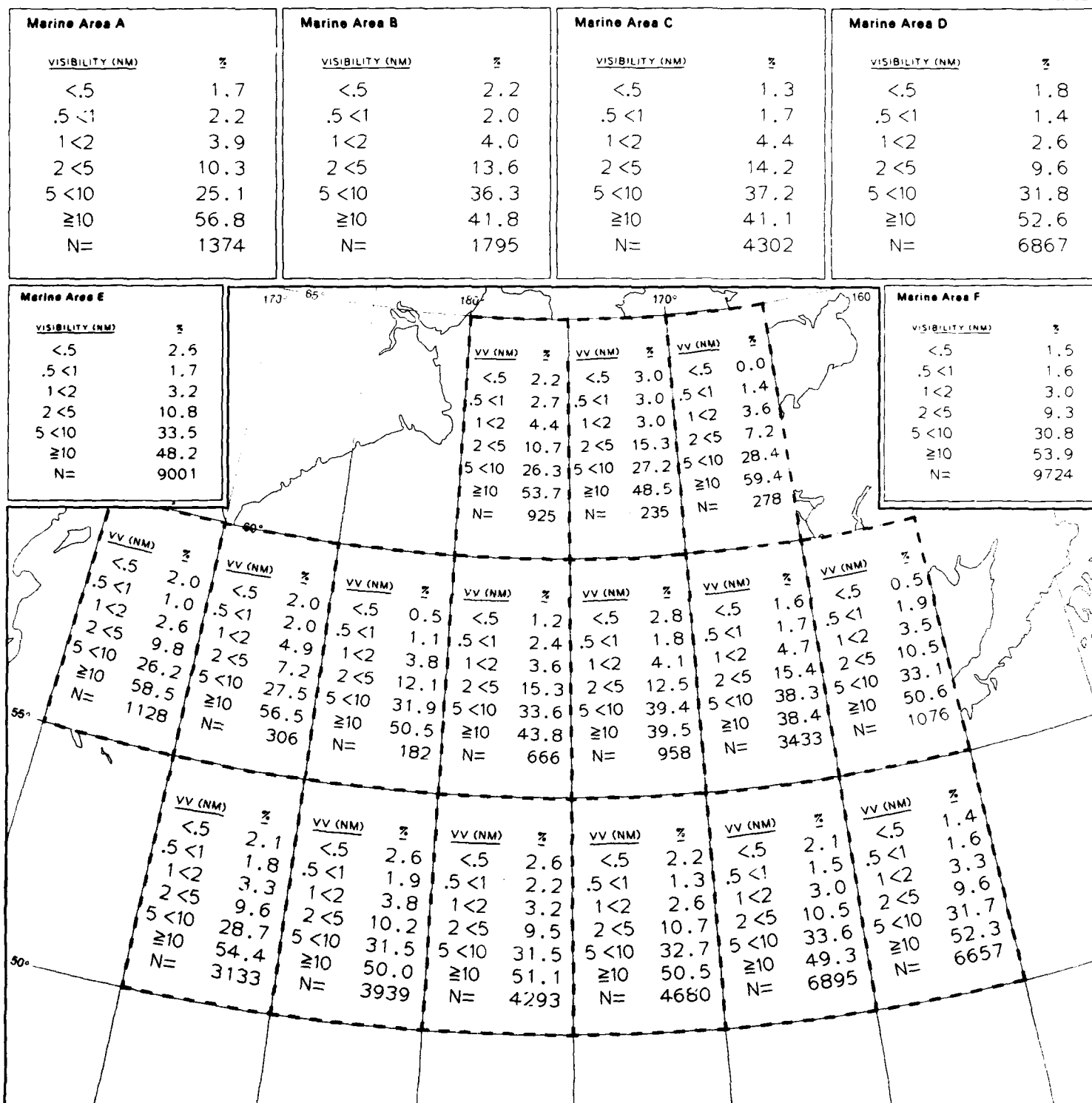
5 Visibility Thresholds

September

<b>Nikol'skoe</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>1.4</td></tr><tr><td>.5 &lt;1</td><td>0.5</td></tr><tr><td>1 &lt;2</td><td>1.1</td></tr><tr><td>2 &lt;5</td><td>5.9</td></tr><tr><td>5 &lt;10</td><td>18.6</td></tr><tr><td>≥10</td><td>72.5</td></tr><tr><td>N=</td><td>5552</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	1.4	.5 <1	0.5	1 <2	1.1	2 <5	5.9	5 <10	18.6	≥10	72.5	N=	5552	<b>Khatirka-In-Chukot</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>1.3</td></tr><tr><td>.5 &lt;1</td><td>1.0</td></tr><tr><td>1 &lt;2</td><td>2.2</td></tr><tr><td>2 &lt;5</td><td>9.1</td></tr><tr><td>5 &lt;10</td><td>5.5</td></tr><tr><td>≥10</td><td>80.9</td></tr><tr><td>N=</td><td>3551</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	1.3	.5 <1	1.0	1 <2	2.2	2 <5	9.1	5 <10	5.5	≥10	80.9	N=	3551	<b>Ugol'naja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>4.1</td></tr><tr><td>.5 &lt;1</td><td>3.2</td></tr><tr><td>1 &lt;2</td><td>6.0</td></tr><tr><td>2 &lt;5</td><td>11.3</td></tr><tr><td>5 &lt;10</td><td>13.6</td></tr><tr><td>≥10</td><td>61.8</td></tr><tr><td>N=</td><td>5148</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	4.1	.5 <1	3.2	1 <2	6.0	2 <5	11.3	5 <10	13.6	≥10	61.8	N=	5148	<b>Buhta Providenja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>1.2</td></tr><tr><td>.5 &lt;1</td><td>1.4</td></tr><tr><td>1 &lt;2</td><td>4.1</td></tr><tr><td>2 &lt;5</td><td>8.8</td></tr><tr><td>5 &lt;10</td><td>19.6</td></tr><tr><td>≥10</td><td>65.0</td></tr><tr><td>N=</td><td>4556</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	1.2	.5 <1	1.4	1 <2	4.1	2 <5	8.8	5 <10	19.6	≥10	65.0	N=	4556
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<.5	0.2																																																																		
.5 <1	0.5																																																																		
1 <2	2.8																																																																		
2 <5	16.0																																																																		
5 <10	72.9																																																																		
≥10	7.6																																																																		
N=	22271																																																																		
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
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5 <10	49.6																																																																		
≥10	31.5																																																																		
N=	19588																																																																		

October

5 Visibility Thresholds



5 Visibility Thresholds

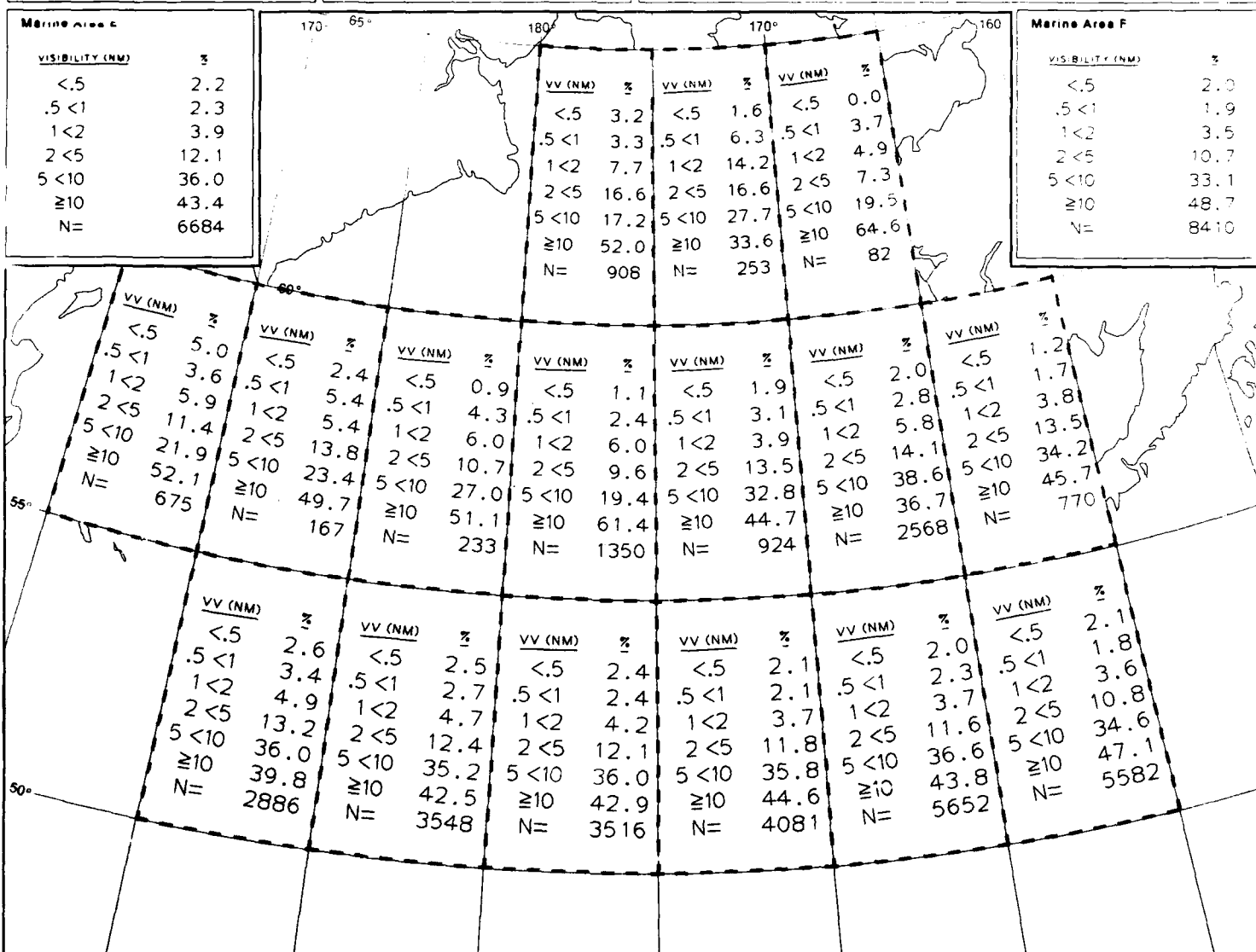
October

**II-130**

<b>Nikol'skoe</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.2</td></tr><tr><td>.5 &lt;1</td><td>1.5</td></tr><tr><td>1 &lt;2</td><td>3.3</td></tr><tr><td>2 &lt;5</td><td>9.1</td></tr><tr><td>5 &lt;10</td><td>17.4</td></tr><tr><td>≥10</td><td>66.5</td></tr><tr><td>N=</td><td>5297</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.2	.5 <1	1.5	1 <2	3.3	2 <5	9.1	5 <10	17.4	≥10	66.5	N=	5297	<b>Khatirka-In-Chukot</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>4.1</td></tr><tr><td>.5 &lt;1</td><td>2.5</td></tr><tr><td>1 &lt;2</td><td>5.4</td></tr><tr><td>2 &lt;5</td><td>8.8</td></tr><tr><td>5 &lt;10</td><td>6.5</td></tr><tr><td>≥10</td><td>72.8</td></tr><tr><td>N=</td><td>3278</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	4.1	.5 <1	2.5	1 <2	5.4	2 <5	8.8	5 <10	6.5	≥10	72.8	N=	3278	<b>Ugol'neja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>12.4</td></tr><tr><td>.5 &lt;1</td><td>6.7</td></tr><tr><td>1 &lt;2</td><td>9.2</td></tr><tr><td>2 &lt;5</td><td>13.5</td></tr><tr><td>5 &lt;10</td><td>13.1</td></tr><tr><td>≥10</td><td>45.0</td></tr><tr><td>N=</td><td>5005</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	12.4	.5 <1	6.7	1 <2	9.2	2 <5	13.5	5 <10	13.1	≥10	45.0	N=	5005	<b>Buhta Providenja</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.7</td></tr><tr><td>.5 &lt;1</td><td>3.6</td></tr><tr><td>1 &lt;2</td><td>7.8</td></tr><tr><td>2 &lt;5</td><td>13.2</td></tr><tr><td>5 &lt;10</td><td>18.1</td></tr><tr><td>≥10</td><td>54.6</td></tr><tr><td>N=</td><td>4328</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.7	.5 <1	3.6	1 <2	7.8	2 <5	13.2	5 <10	18.1	≥10	54.6	N=	4328
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
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N=	4328																																																																		
<b>Northeast Cape</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>3.8</td></tr><tr><td>.5 &lt;1</td><td>4.7</td></tr><tr><td>1 &lt;2</td><td>9.6</td></tr><tr><td>2 &lt;5</td><td>19.0</td></tr><tr><td>5 &lt;10</td><td>45.7</td></tr><tr><td>≥10</td><td>17.1</td></tr><tr><td>N=</td><td>10394</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	3.8	.5 <1	4.7	1 <2	9.6	2 <5	19.0	5 <10	45.7	≥10	17.1	N=	10394	<b>Nome</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.4</td></tr><tr><td>.5 &lt;1</td><td>4.0</td></tr><tr><td>1 &lt;2</td><td>5.1</td></tr><tr><td>2 &lt;5</td><td>9.7</td></tr><tr><td>5 &lt;10</td><td>24.6</td></tr><tr><td>≥10</td><td>54.1</td></tr><tr><td>N=</td><td>21113</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.4	.5 <1	4.0	1 <2	5.1	2 <5	9.7	5 <10	24.6	≥10	54.1	N=	21113	<b>Unalakleet</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>1.4</td></tr><tr><td>.5 &lt;1</td><td>2.2</td></tr><tr><td>1 &lt;2</td><td>2.3</td></tr><tr><td>2 &lt;5</td><td>5.6</td></tr><tr><td>5 &lt;10</td><td>22.2</td></tr><tr><td>≥10</td><td>66.3</td></tr><tr><td>N=</td><td>15373</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	1.4	.5 <1	2.2	1 <2	2.3	2 <5	5.6	5 <10	22.2	≥10	66.3	N=	15373	<b>Cape Romanzof</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>5.2</td></tr><tr><td>.5 &lt;1</td><td>5.5</td></tr><tr><td>1 &lt;2</td><td>4.7</td></tr><tr><td>2 &lt;5</td><td>13.4</td></tr><tr><td>5 &lt;10</td><td>34.1</td></tr><tr><td>≥10</td><td>37.2</td></tr><tr><td>N=</td><td>17766</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	5.2	.5 <1	5.5	1 <2	4.7	2 <5	13.4	5 <10	34.1	≥10	37.2	N=	17766
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
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<b>Cape Newenham</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.8</td></tr><tr><td>.5 &lt;1</td><td>4.5</td></tr><tr><td>1 &lt;2</td><td>5.6</td></tr><tr><td>2 &lt;5</td><td>14.6</td></tr><tr><td>5 &lt;10</td><td>35.9</td></tr><tr><td>≥10</td><td>36.7</td></tr><tr><td>N=</td><td>19319</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.8	.5 <1	4.5	1 <2	5.6	2 <5	14.6	5 <10	35.9	≥10	36.7	N=	19319	<b>King Salmon</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.5</td></tr><tr><td>.5 &lt;1</td><td>1.9</td></tr><tr><td>1 &lt;2</td><td>2.7</td></tr><tr><td>2 &lt;5</td><td>4.7</td></tr><tr><td>5 &lt;10</td><td>21.3</td></tr><tr><td>≥10</td><td>67.0</td></tr><tr><td>N=</td><td>18239</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.5	.5 <1	1.9	1 <2	2.7	2 <5	4.7	5 <10	21.3	≥10	67.0	N=	18239	<b>Port Heiden</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.9</td></tr><tr><td>.5 &lt;1</td><td>1.9</td></tr><tr><td>1 &lt;2</td><td>1.7</td></tr><tr><td>2 &lt;5</td><td>6.2</td></tr><tr><td>5 &lt;10</td><td>14.8</td></tr><tr><td>≥10</td><td>72.4</td></tr><tr><td>N=</td><td>1802</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.9	.5 <1	1.9	1 <2	1.7	2 <5	6.2	5 <10	14.8	≥10	72.4	N=	1802	<b>Cold Bay</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>1.1</td></tr><tr><td>.5 &lt;1</td><td>1.8</td></tr><tr><td>1 &lt;2</td><td>2.9</td></tr><tr><td>2 &lt;5</td><td>10.1</td></tr><tr><td>5 &lt;10</td><td>50.7</td></tr><tr><td>≥10</td><td>33.4</td></tr><tr><td>N=</td><td>13920</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	1.1	.5 <1	1.8	1 <2	2.9	2 <5	10.1	5 <10	50.7	≥10	33.4	N=	13920
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
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<b>Nikolski</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>13.8</td></tr><tr><td>.5 &lt;1</td><td>1.1</td></tr><tr><td>1 &lt;2</td><td>0.8</td></tr><tr><td>2 &lt;5</td><td>5.7</td></tr><tr><td>5 &lt;10</td><td>35.9</td></tr><tr><td>≥10</td><td>42.7</td></tr><tr><td>N=</td><td>2398</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	13.8	.5 <1	1.1	1 <2	0.8	2 <5	5.7	5 <10	35.9	≥10	42.7	N=	2398	<b>St. Paul</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>1.4</td></tr><tr><td>.5 &lt;1</td><td>2.1</td></tr><tr><td>1 &lt;2</td><td>3.0</td></tr><tr><td>2 &lt;5</td><td>13.1</td></tr><tr><td>5 &lt;10</td><td>65.5</td></tr><tr><td>≥10</td><td>14.8</td></tr><tr><td>N=</td><td>11381</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	1.4	.5 <1	2.1	1 <2	3.0	2 <5	13.1	5 <10	65.5	≥10	14.8	N=	11381	<b>Adak</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>0.6</td></tr><tr><td>.5 &lt;1</td><td>1.0</td></tr><tr><td>1 &lt;2</td><td>3.5</td></tr><tr><td>2 &lt;5</td><td>17.0</td></tr><tr><td>5 &lt;10</td><td>71.8</td></tr><tr><td>≥10</td><td>6.0</td></tr><tr><td>N=</td><td>20827</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	0.6	.5 <1	1.0	1 <2	3.5	2 <5	17.0	5 <10	71.8	≥10	6.0	N=	20827	<b>Shemya</b>  <table><tr><td><u>VISIBILITY (NM)</u></td><td><u>%</u></td></tr><tr><td>&lt;.5</td><td>2.0</td></tr><tr><td>.5 &lt;1</td><td>2.7</td></tr><tr><td>1 &lt;2</td><td>4.8</td></tr><tr><td>2 &lt;5</td><td>14.0</td></tr><tr><td>5 &lt;10</td><td>54.0</td></tr><tr><td>≥10</td><td>22.5</td></tr><tr><td>N=</td><td>18944</td></tr></table>	<u>VISIBILITY (NM)</u>	<u>%</u>	<.5	2.0	.5 <1	2.7	1 <2	4.8	2 <5	14.0	5 <10	54.0	≥10	22.5	N=	18944
<u>VISIBILITY (NM)</u>	<u>%</u>																																																																		
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5 <10	54.0																																																																		
≥10	22.5																																																																		
N=	18944																																																																		

**November**
**5 Visibility Thresholds**

Marine Area A		Marine Area B		Marine Area C		Marine Area D	
VISIBILITY (NM)	%	VISIBILITY (NM)	%	VISIBILITY (NM)	%	VISIBILITY (NM)	%
<.5	2.6	<.5	1.4	<.5	1.9	<.5	2.0
.5 <1	4.1	.5 <1	2.7	.5 <1	2.6	.5 <1	2.2
1 <2	8.8	1 <2	5.2	1 <2	5.4	1 <2	3.7
2 <5	15.8	2 <5	11.1	2 <5	14.3	2 <5	11.5
5 <10	19.0	5 <10	26.3	5 <10	37.5	5 <10	36.4
≥10	49.8	≥10	53.4	≥10	38.3	≥10	44.2
N=	1200	N=	2489	N=	3046	N=	6565



5 Visibility Thresholds

November



<b>Nikol'skoe</b> <u>VISIBILITY (NM)</u> % <.5      4.5 .5 <1      4.2 1 <2      4.6 2 <5      10.2 5 <10      17.6 ≥10      58.9 N=      5460	<b>Khatirka-In-Chukot</b> <u>VISIBILITY (NM)</u> % <.5      4.4 .5 <1      3.3 1 <2      8.6 2 <5      10.0 5 <10      7.0 ≥10      66.7 N=      3282	<b>Ugol'naja</b> <u>VISIBILITY (NM)</u> % <.5      14.4 .5 <1      7.1 1 <2      8.6 2 <5      12.5 5 <10      13.0 ≥10      44.4 N=      5218	<b>Buhta Providenja</b> <u>VISIBILITY (NM)</u> % <.5      3.7 .5 <1      3.5 1 <2      6.3 2 <5      10.6 5 <10      18.2 ≥10      57.7 N=      4476
<b>Northeast Cape</b> <u>VISIBILITY (NM)</u> % <.5      3.3 .5 <1      4.6 1 <2      8.4 2 <5      17.4 5 <10      38.4 ≥10      27.8 N=      9459	<b>Nome</b> <u>VISIBILITY (NM)</u> % <.5      3.5 .5 <1      3.6 1 <2      4.4 2 <5      9.6 5 <10      24.5 ≥10      54.5 N=      21808	<b>Unalakleet</b> <u>VISIBILITY (NM)</u> % <.5      2.2 .5 <1      2.0 1 <2      2.2 2 <5      5.4 5 <10      26.7 ≥10      61.5 N=      15851	<b>Cape Romanzof</b> <u>VISIBILITY (NM)</u> % <.5      7.8 .5 <1      6.8 1 <2      4.0 2 <5      14.0 5 <10      32.2 ≥10      34.7 N=      16673
<b>Cape Newenham</b> <u>VISIBILITY (NM)</u> % <.5      4.2 .5 <1      5.2 1 <2      7.5 2 <5      16.0 5 <10      35.2 ≥10      31.8 N=      19154	<b>King Salmon</b> <u>VISIBILITY (NM)</u> % <.5      2.4 .5 <1      3.2 1 <2      3.8 2 <5      5.4 5 <10      24.0 ≥10      61.3 N=      18839	<b>Port Heiden</b> <u>VISIBILITY (NM)</u> % <.5      5.2 .5 <1      3.5 1 <2      2.2 2 <5      7.2 5 <10      23.6 ≥10      58.3 N=      1986	<b>Cold Bay</b> <u>VISIBILITY (NM)</u> % <.5      3.7 .5 <1      3.3 1 <2      4.8 2 <5      12.7 5 <10      40.2 ≥10      29.8 N=      14382
<b>Nikolski</b> <u>VISIBILITY (NM)</u> % <.5      12.4 .5 <1      1.7 1 <2      1.5 2 <5      7.0 5 <10      39.2 ≥10      38.2 N=      2228	<b>St. Paul</b> <u>VISIBILITY (NM)</u> % <.5      4.4 .5 <1      3.7 1 <2      4.1 2 <5      14.9 5 <10      60.8 ≥10      12.1 N=      11800	<b>Adak</b> <u>VISIBILITY (NM)</u> % <.5      1.4 .5 <1      2.0 1 <2      4.8 2 <5      17.9 5 <10      69.9 ≥10      3.9 N=      22168	<b>Shemya</b> <u>VISIBILITY (NM)</u> % <.5      2.8 .5 <1      3.6 1 <2      5.9 2 <5      16.7 5 <10      52.7 ≥10      18.9 N=      19140

December

5 Visibility Thresholds



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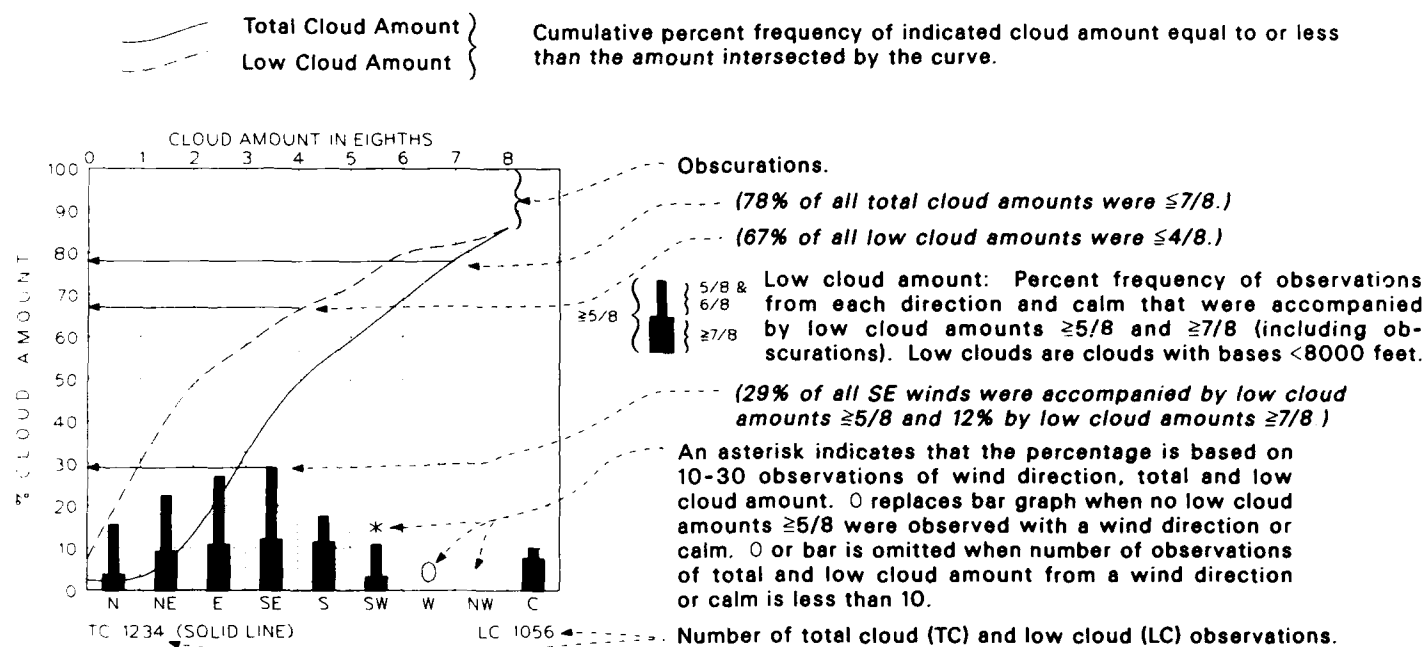
## Map 6. Cloud amount

BLACK LINE – Percent frequency of total cloud amount  $\leq 2/8$ .

BLUE LINE – Percent frequency of low cloud amount  $\geq 5/8$ .

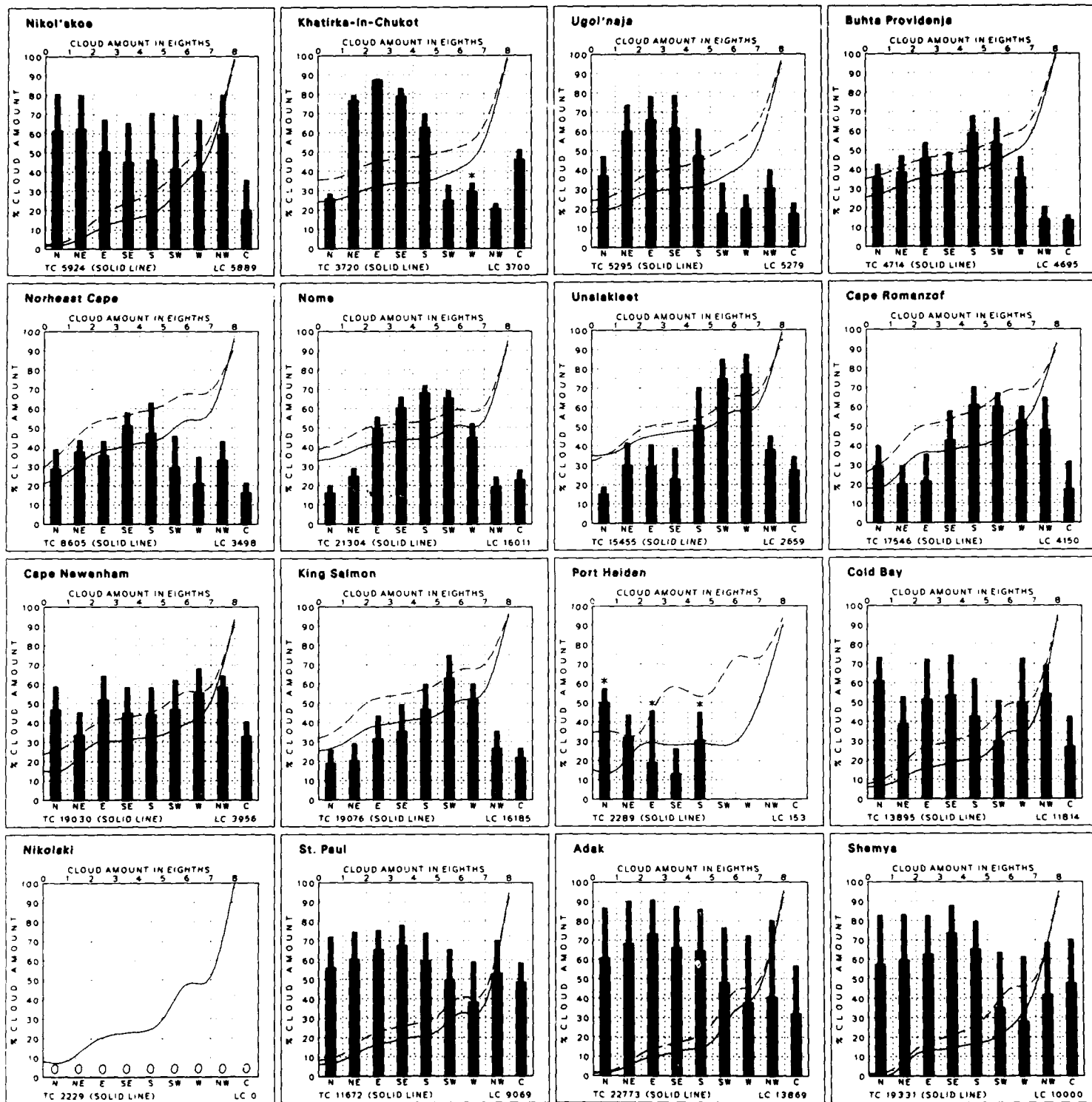
Albers Equal-Area Conic Projection

### Graphs: Cloud cover/wind direction



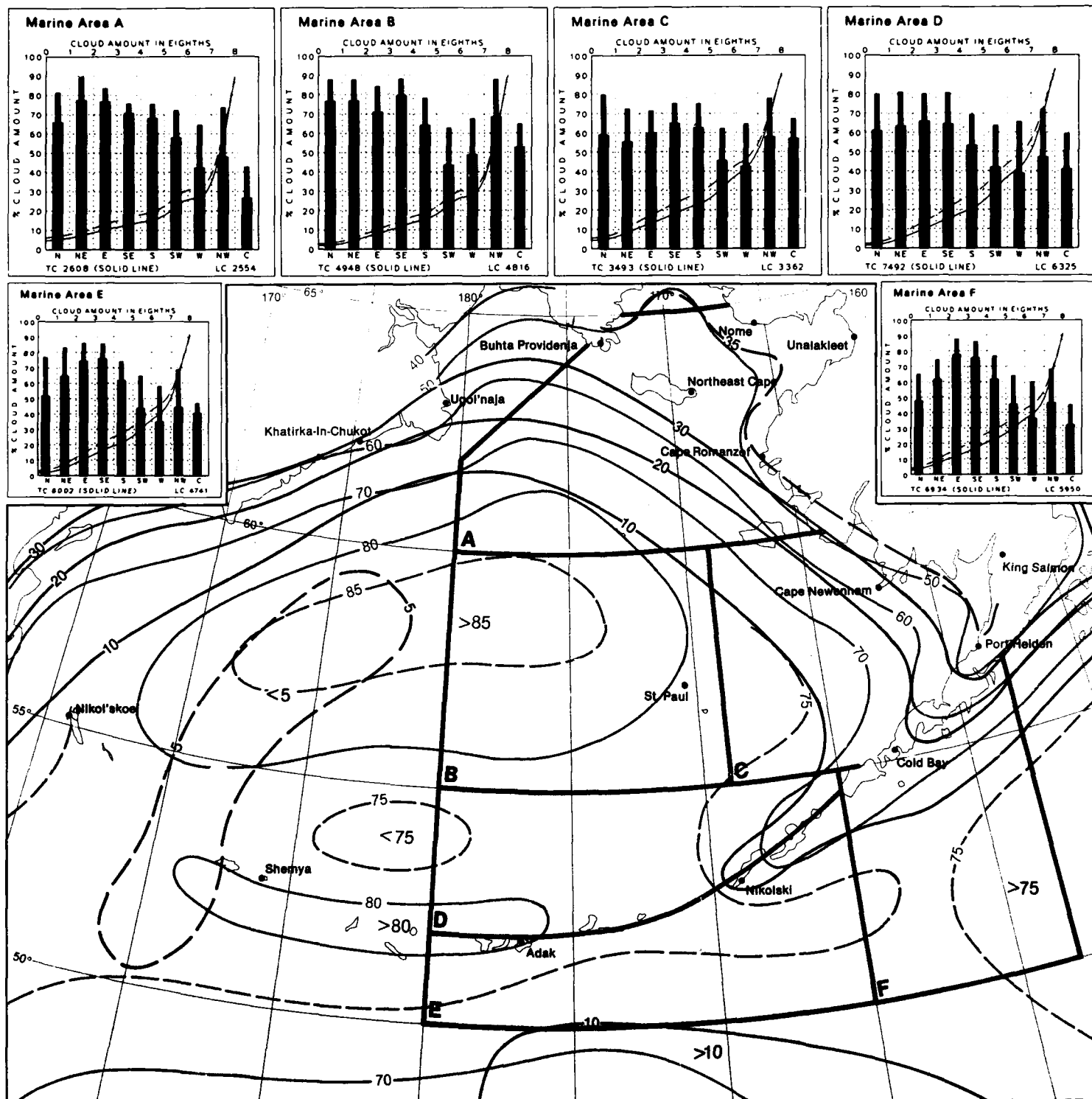
A survey of the cloud data (total and low cloud amounts) from the marine data base shows the number of total cloud reports significantly greater than that of low cloud amounts. This is because many of the early marine observations contain only total cloud amounts. Therefore, somewhat different samples may be used to compute the two curves on the graph. This may lead to inconsistencies where the low cloud amount appears higher than the total cloud amount. Where this occurred, the graph was adjusted in favor of the total cloud by making the curves coincide. The frequency of obscured conditions may be determined from the graph by subtracting the cumulative percent frequency on the curve corresponding to 8/8 coverage from 100%. In computing the bar graph, obscurements are considered as 8/8 coverage.

For the two isopleth presentations (total cloud amount  $\leq 2/8$  and low cloud amount  $\geq 5/8$ ), only those observations reporting both total and low cloud amounts were summarized. This helps eliminate problems introduced as a result of different size data sets. A comparison of total cloud analyses based on satellite data by the U.S. Department of Commerce and U.S. Air Force (1971) shows a fairly close agreement with, and bolsters the confidence in, the marine cloud statistics presented in this atlas. Refer to the texts in Sets 3 and 4 for additional information on clouds.

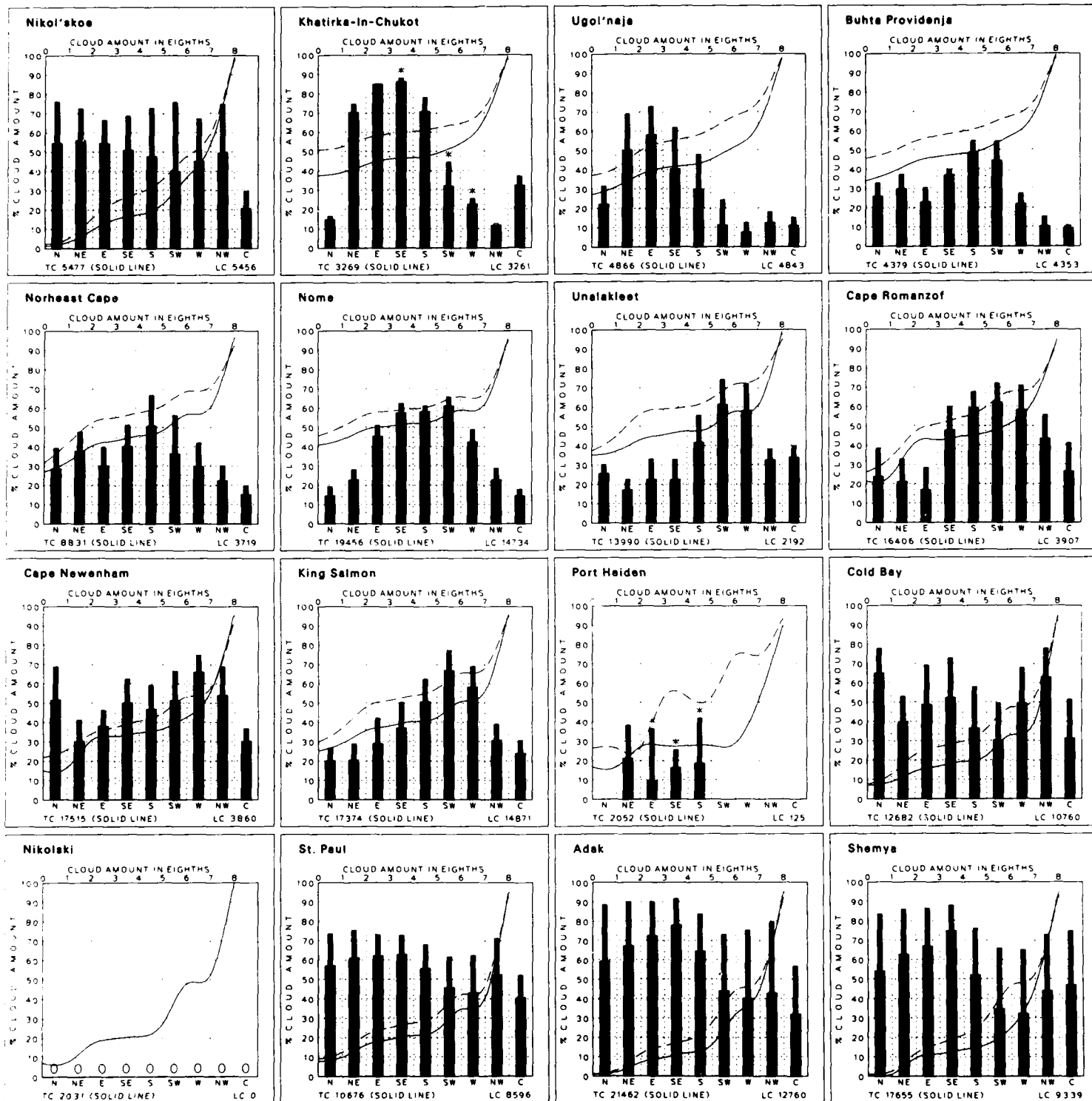


January

6 Cloud Cover and Wind Direction

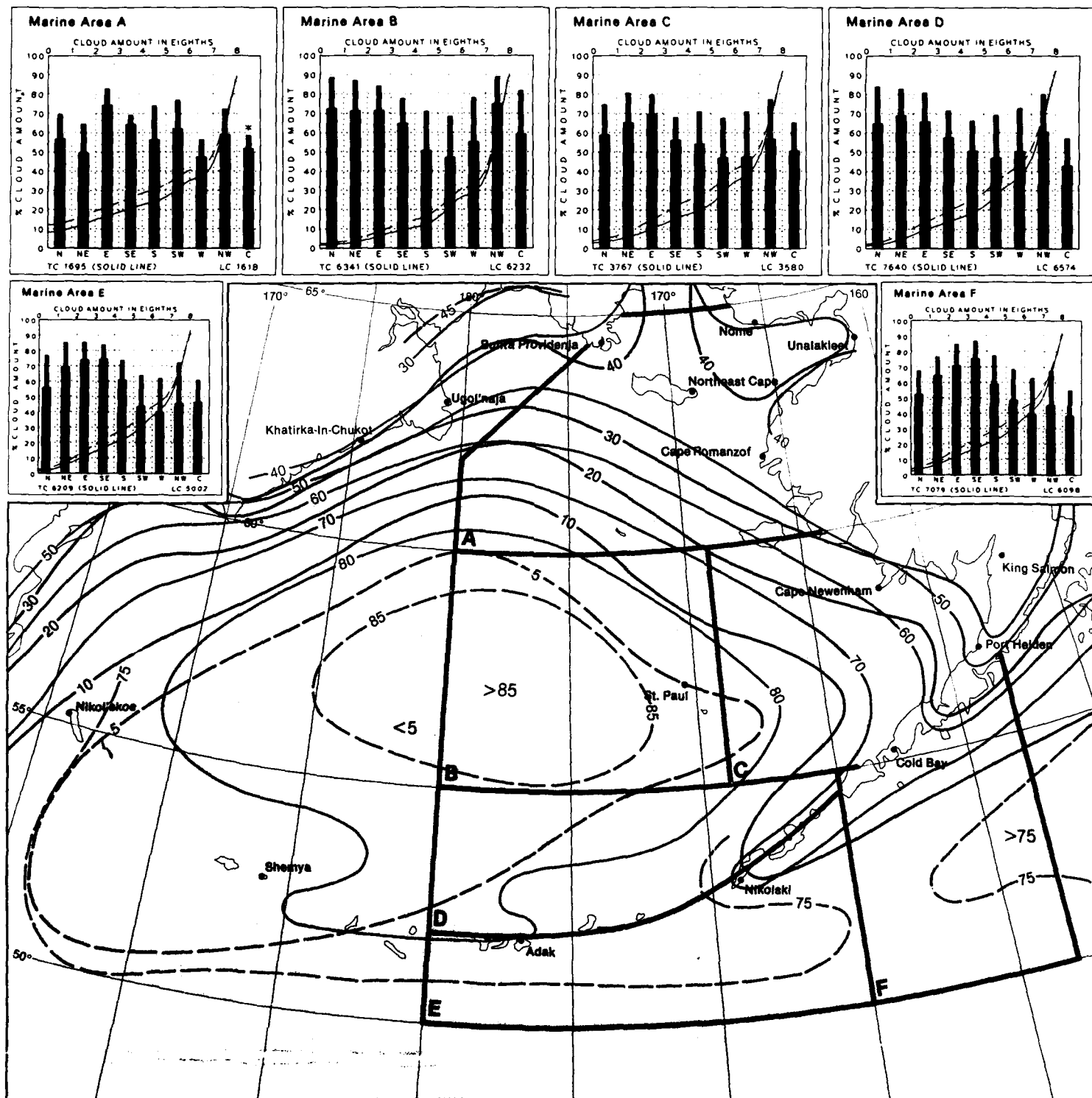
6 Clouds  $\geq 2/8$  and  $\geq 5/8$ 

January



February

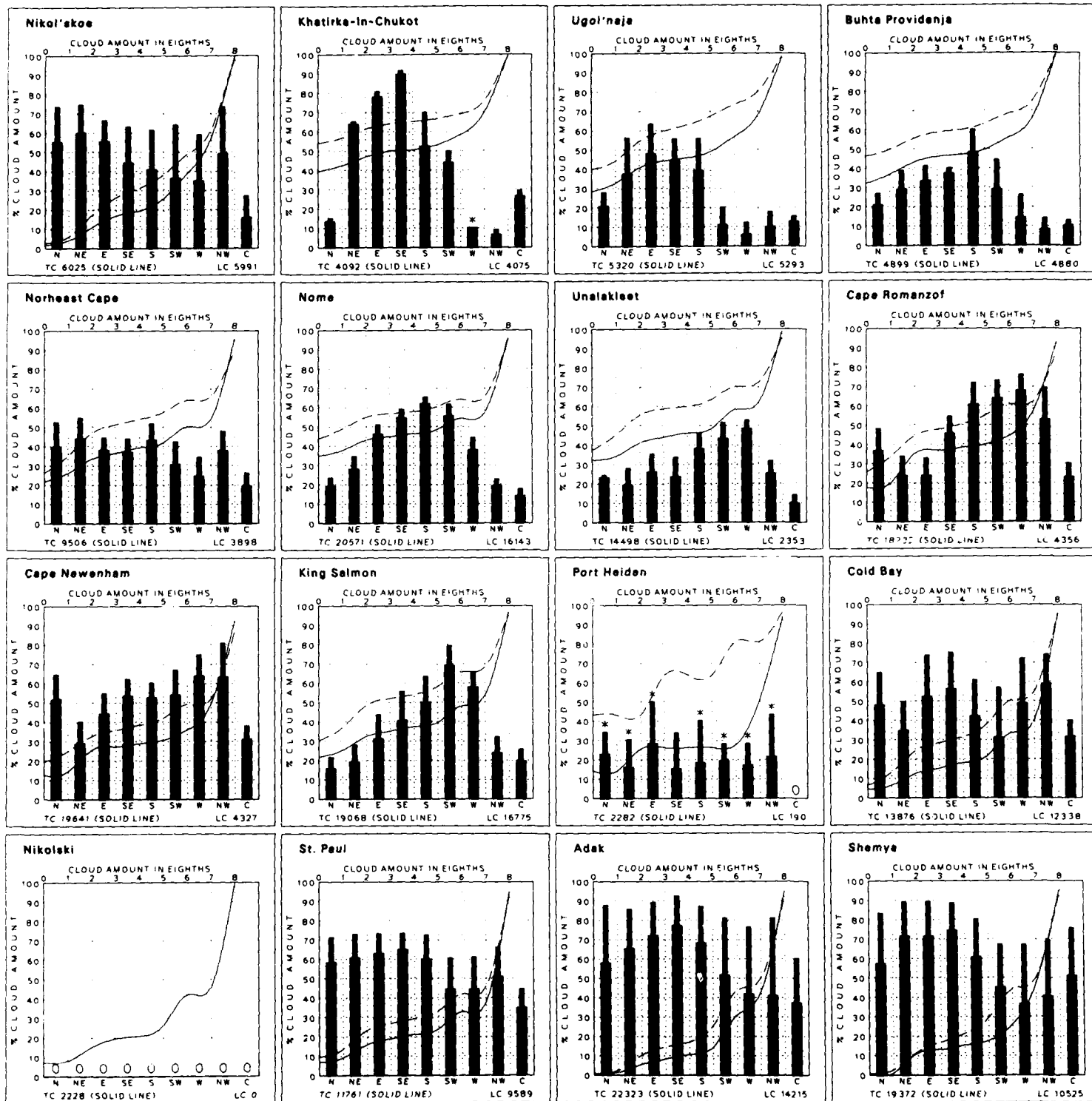
6 Cloud Cover and Wind Direction



6 Clouds  $\leq 2/8$  and  $\geq 5/8$

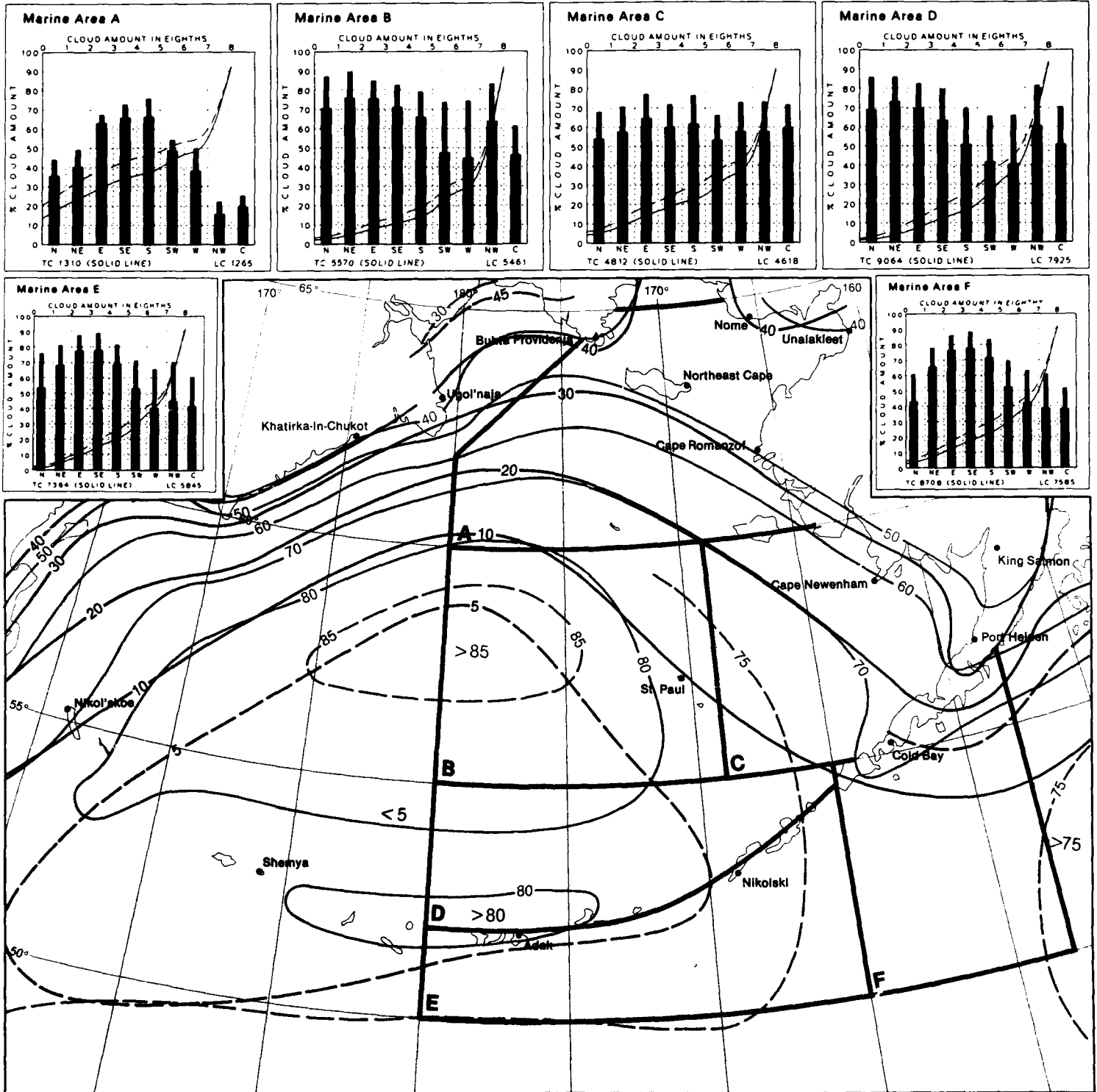
February





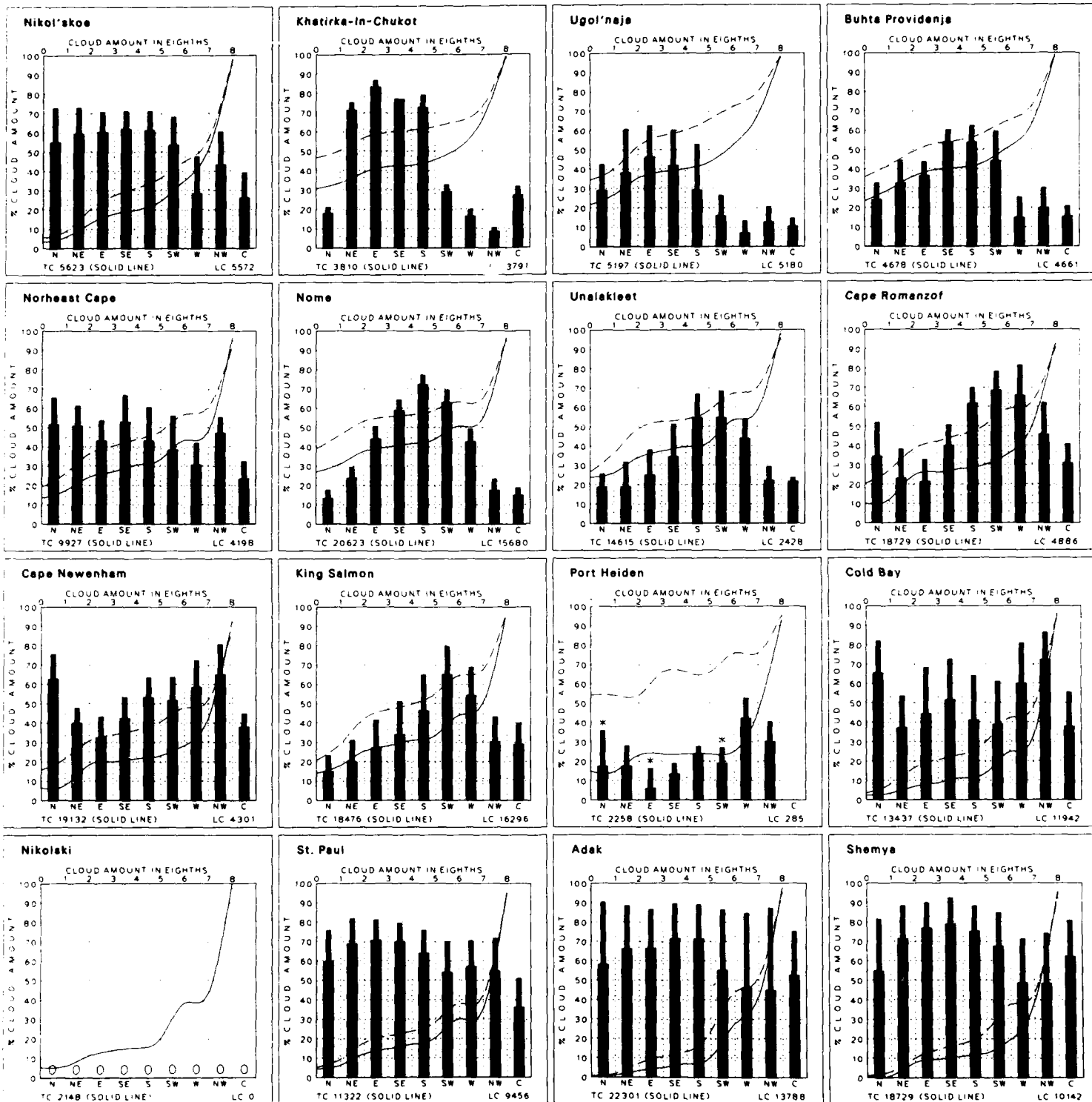
March

6 Cloud Cover and Wind Direction



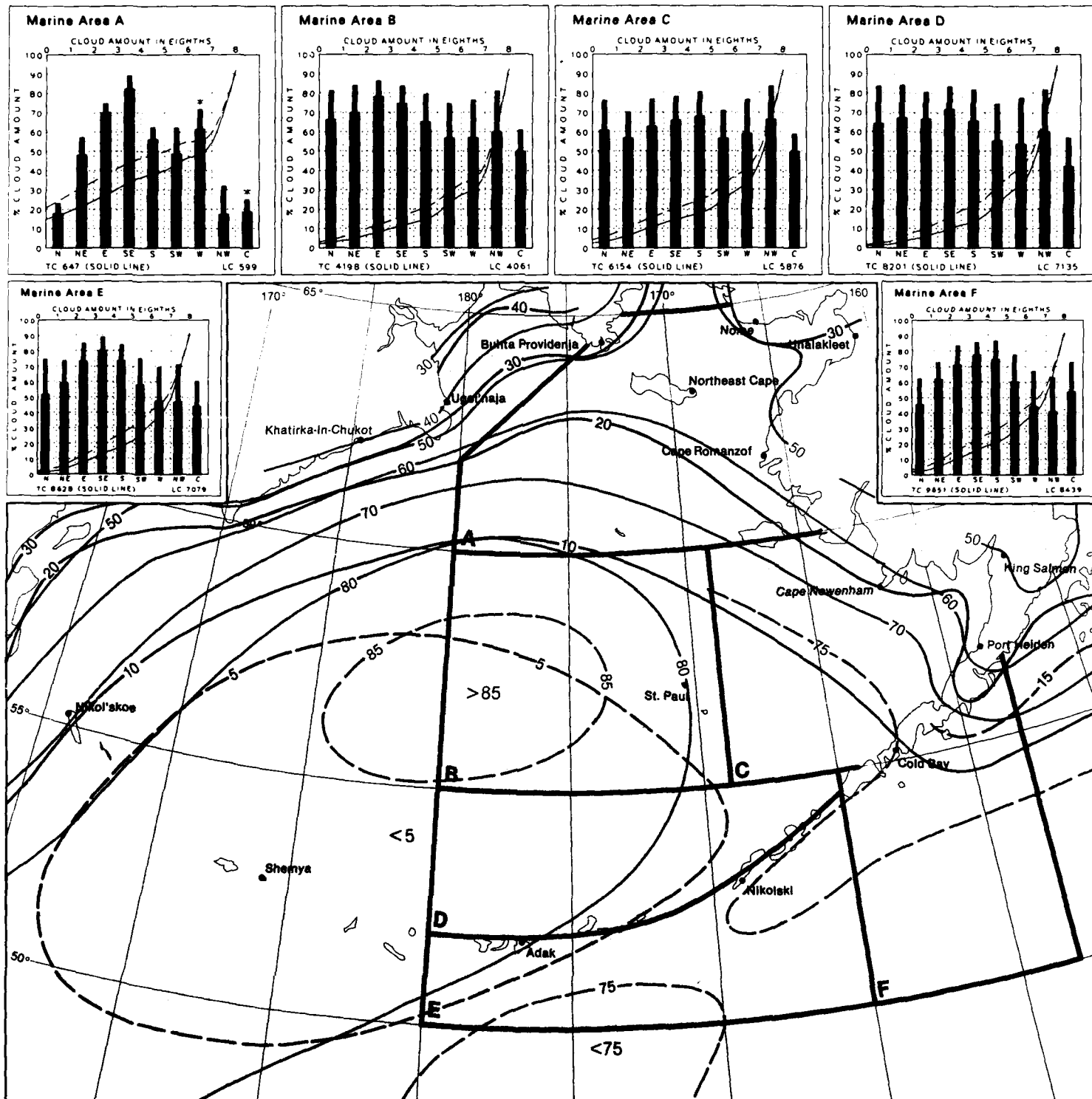
6 Clouds  $\leq 2/8$  and  $\geq 5/8$

March



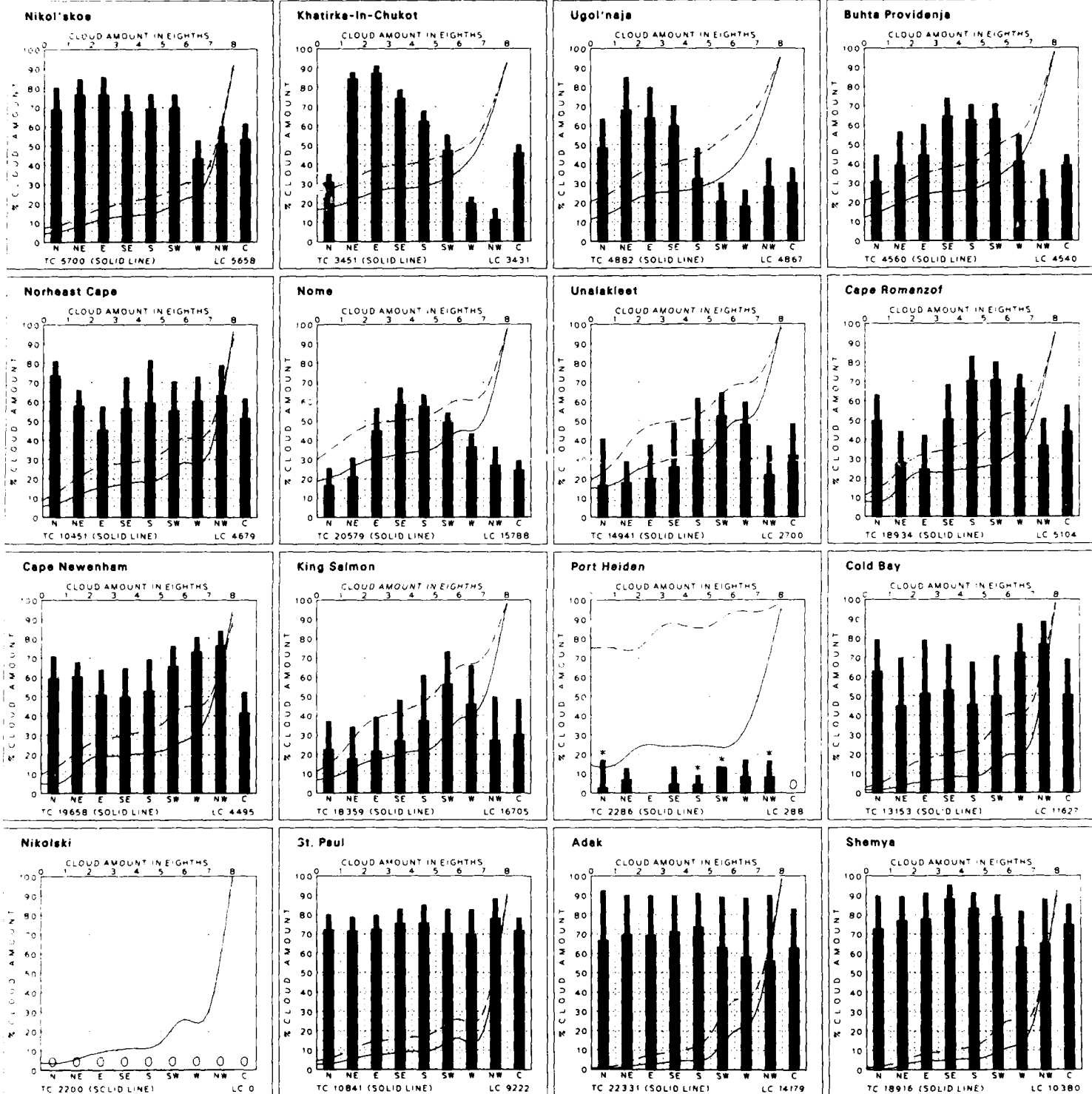
April

6 Cloud Cover and Wind Direction



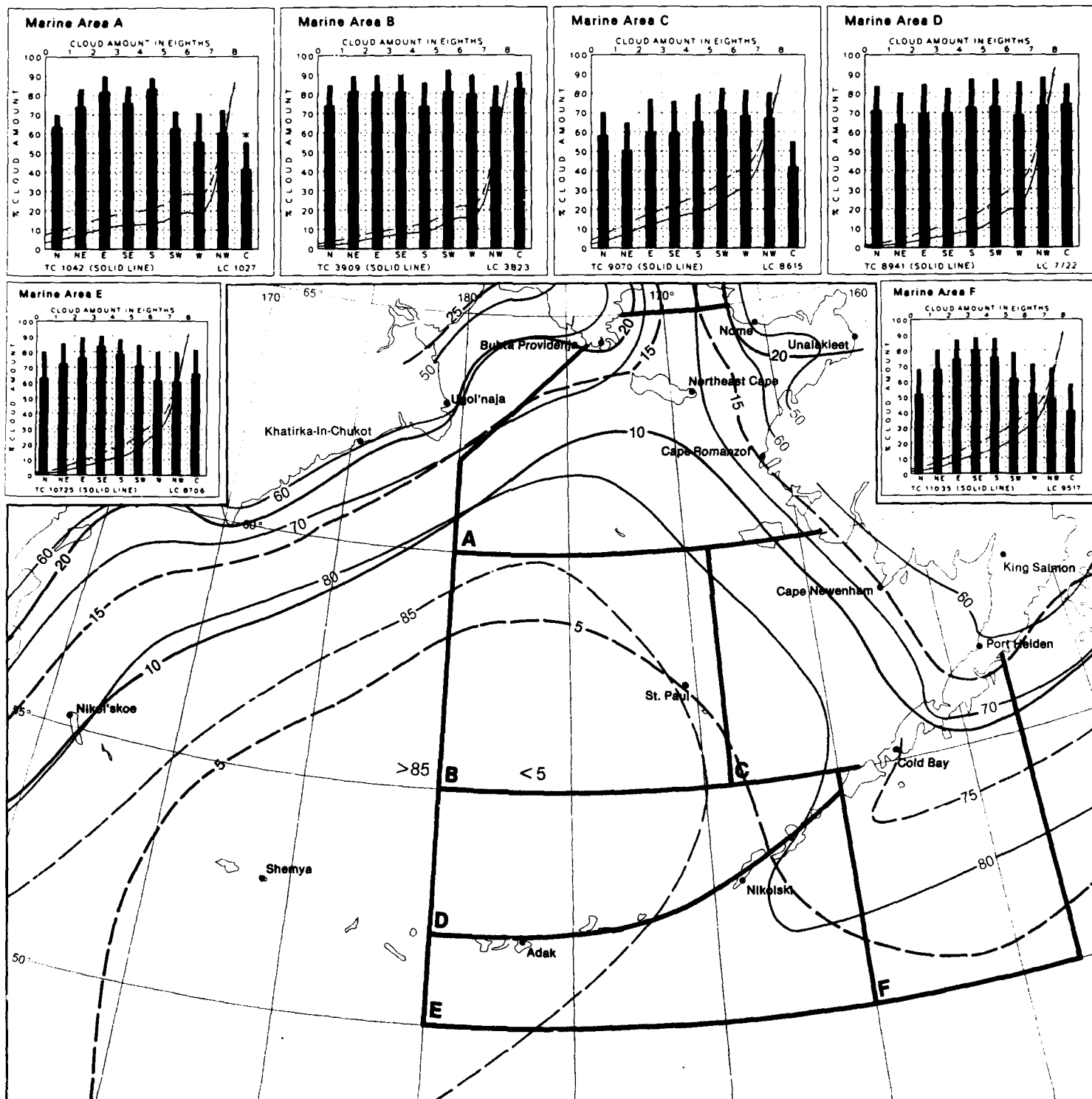
6 Clouds  $\leq 2/8$  and  $\geq 5/8$

April



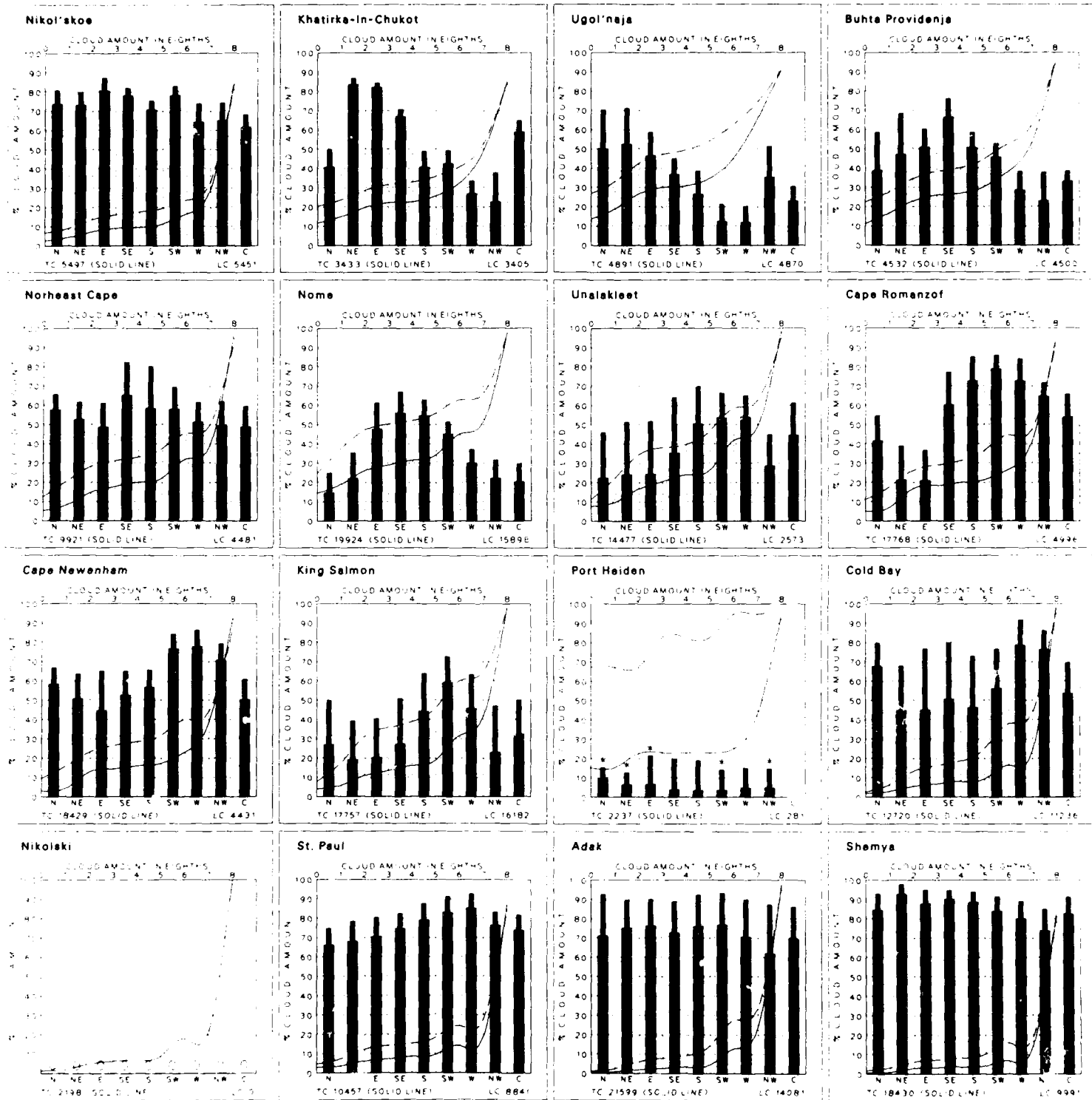
May

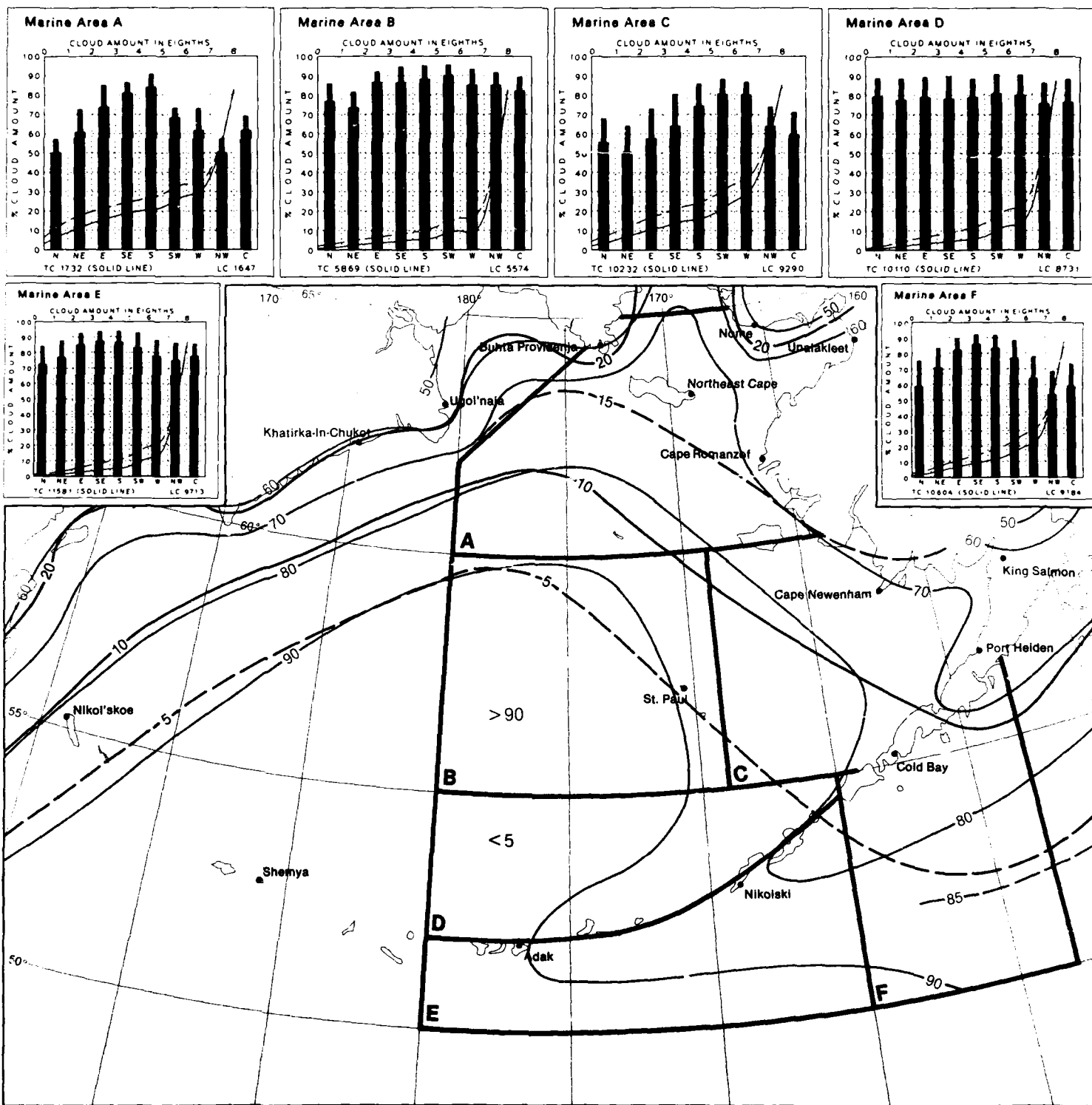
6 Cloud Cover and Wind Direction



6 Clouds  $\leq 2/8$  and  $\geq 5/8$

May

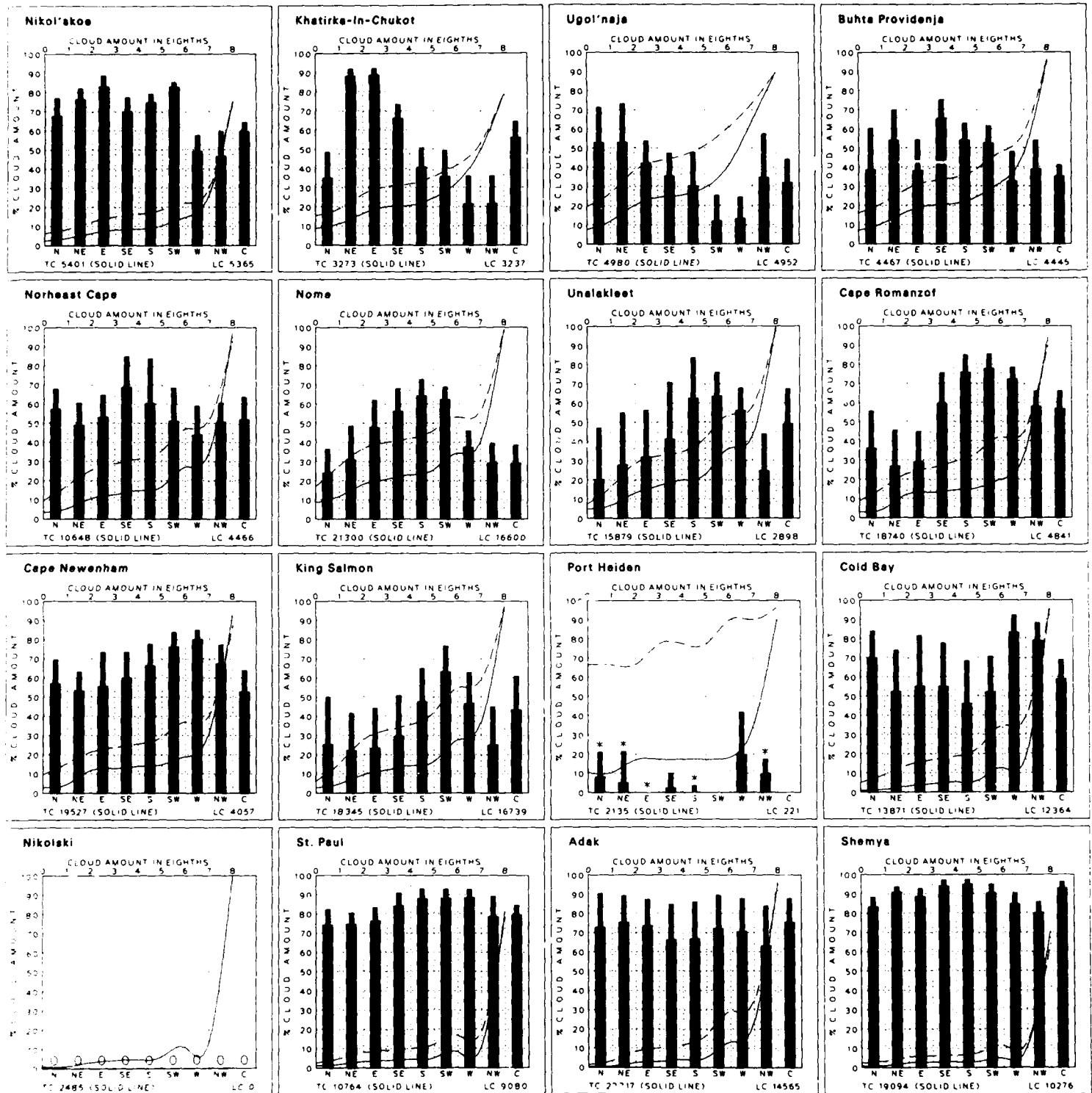




6 Clouds  $\leq 2/8$  and  $\geq 5/8$

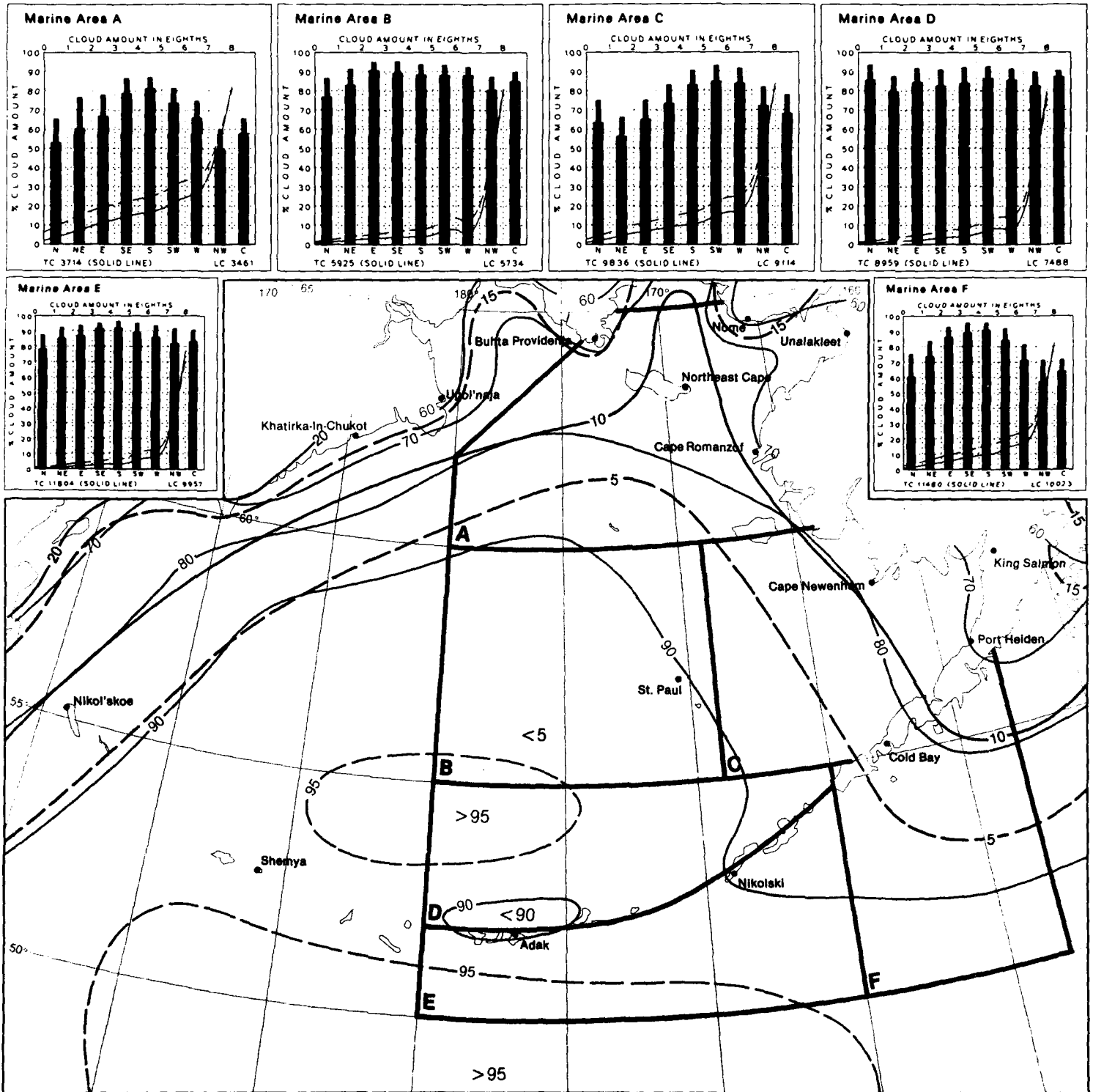
June





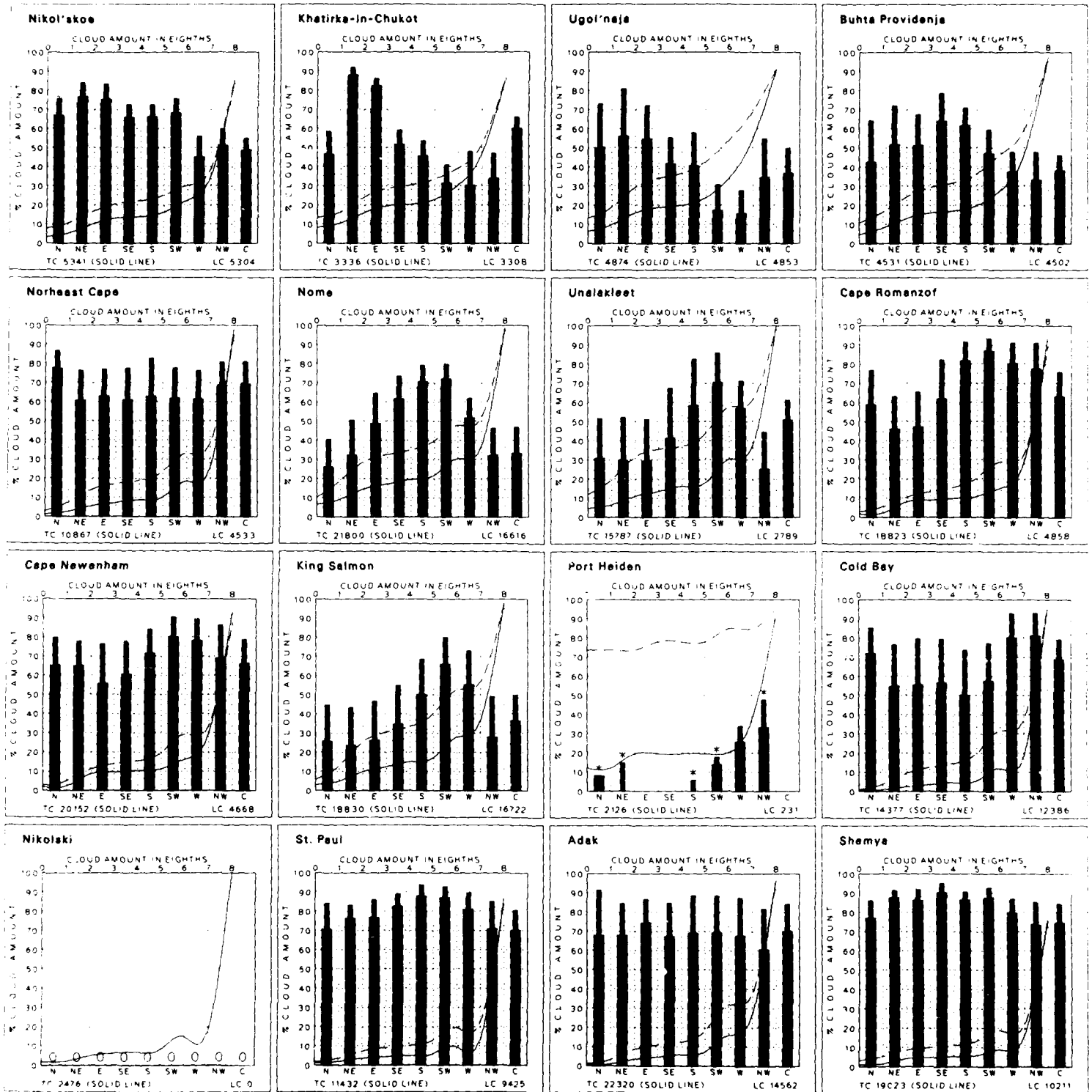
July

6 Cloud Cover and Wind Direction



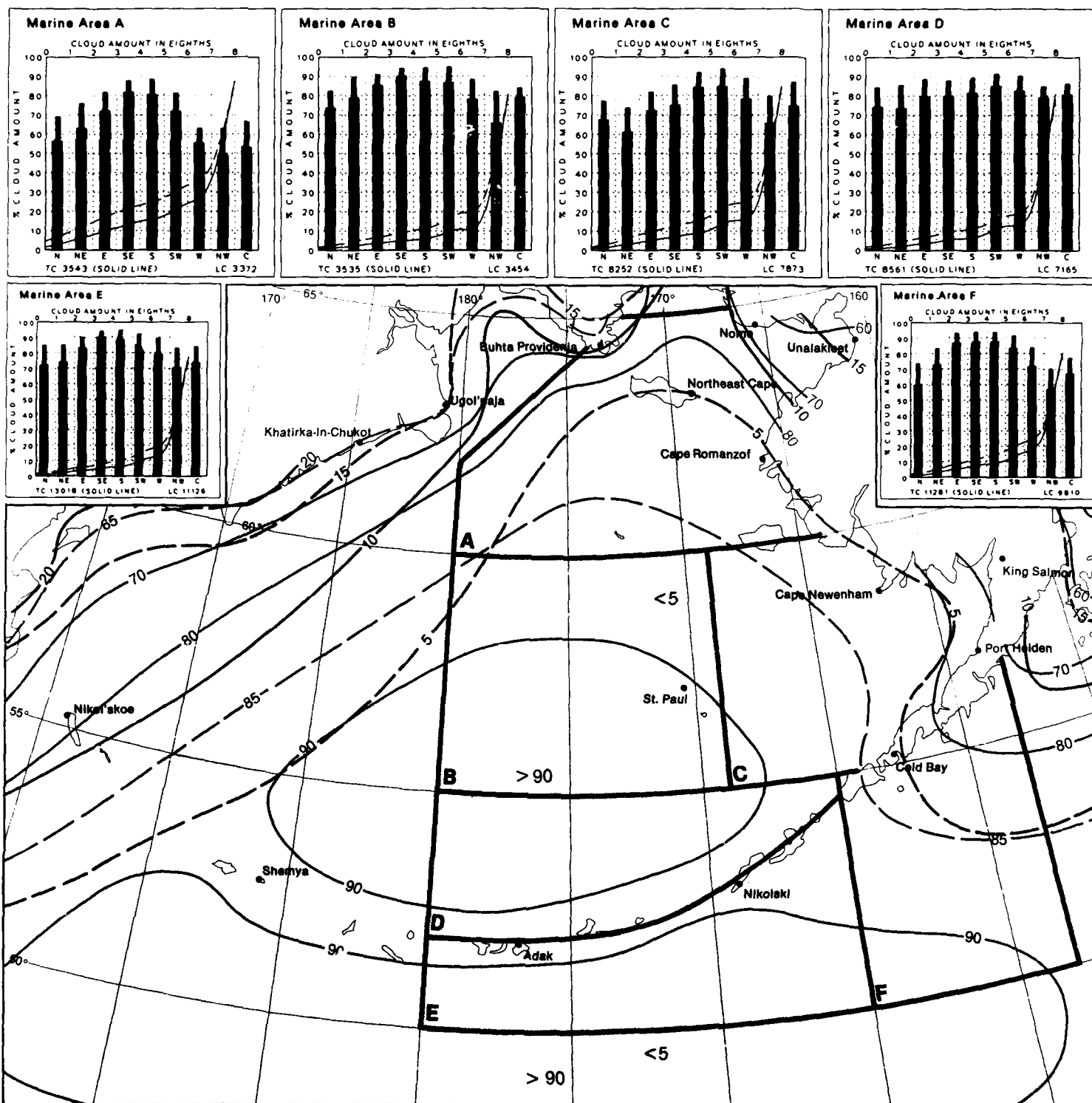
6 Clouds  $\geq 2/8$  and  $\geq 5/8$

July



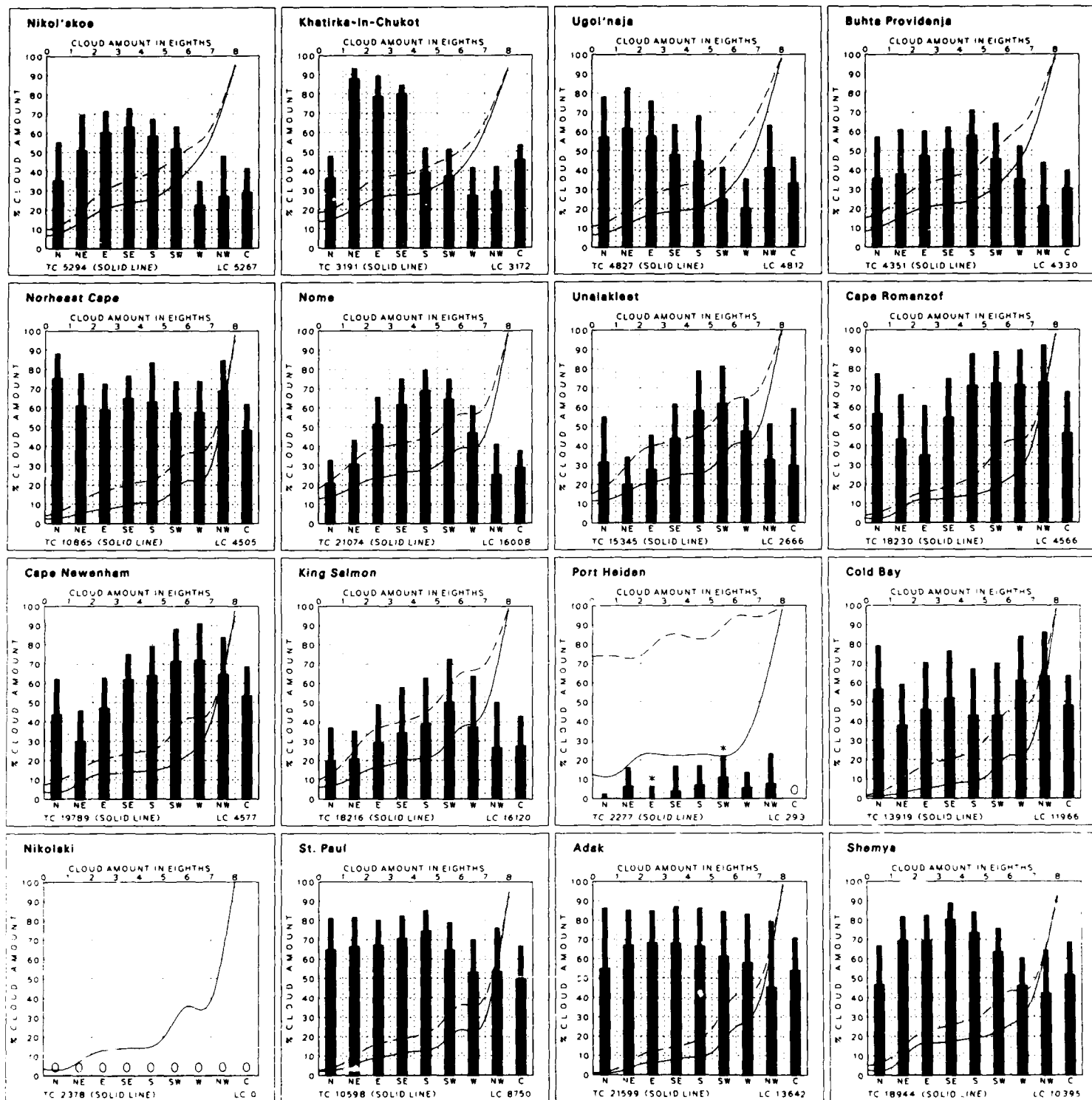
August

6 Cloud Cover and Wind Direction



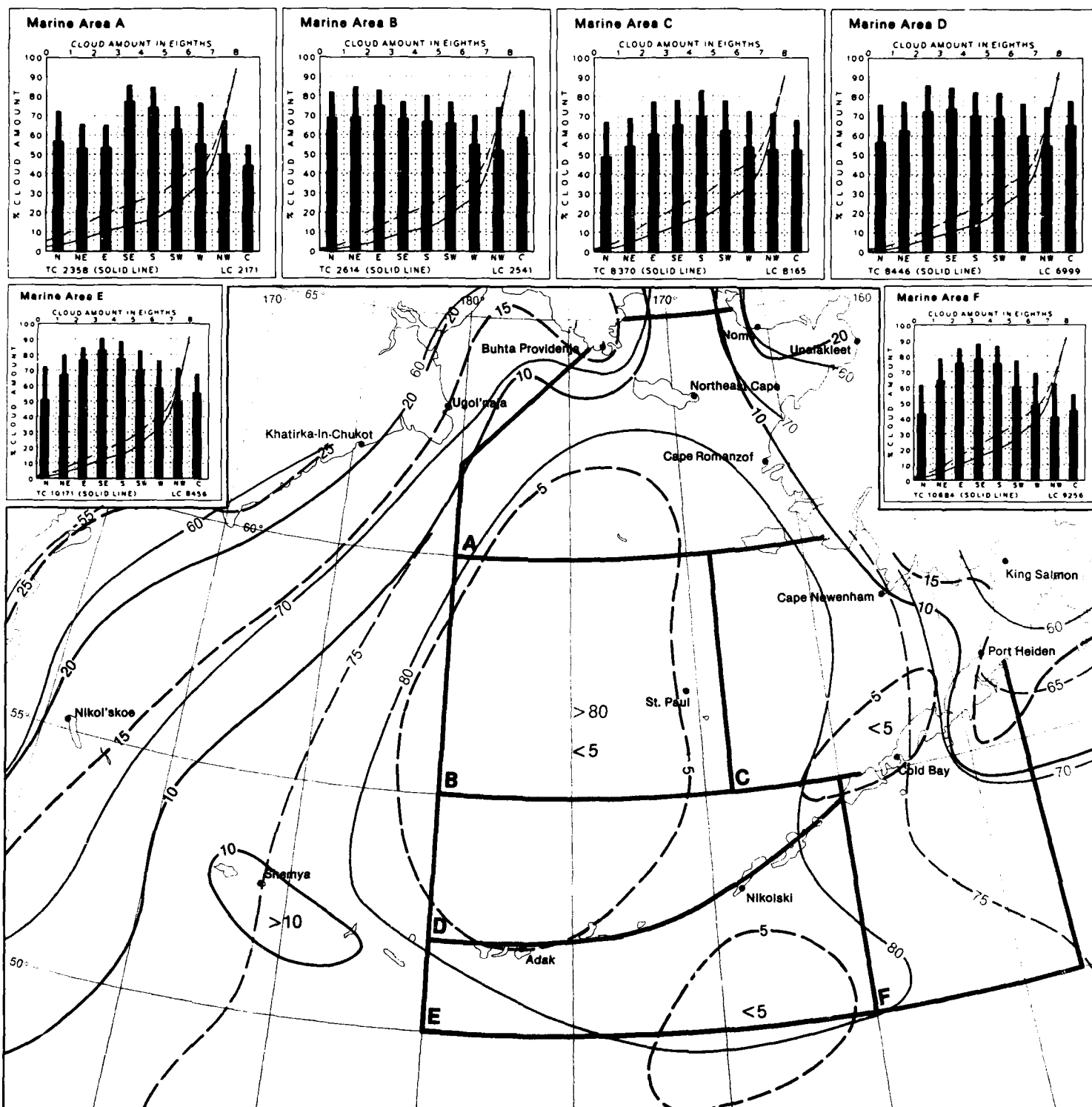
6 Clouds  $\leq 2/8$  and  $\geq 5/8$

August



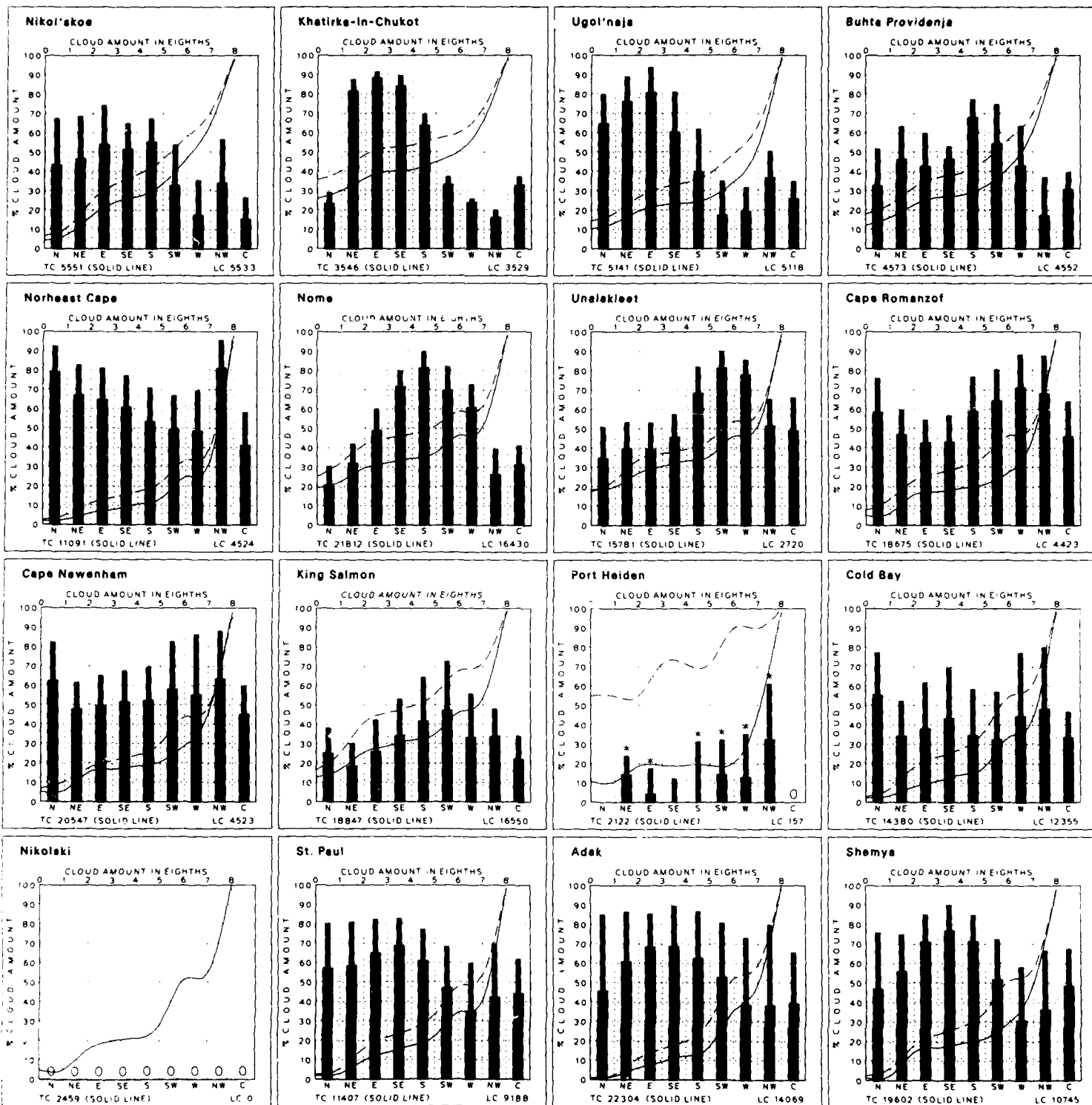
September

6 Cloud Cover and Wind Direction



**6 Clouds  $\leq 2/8$  and  $\geq 5/8$**

September

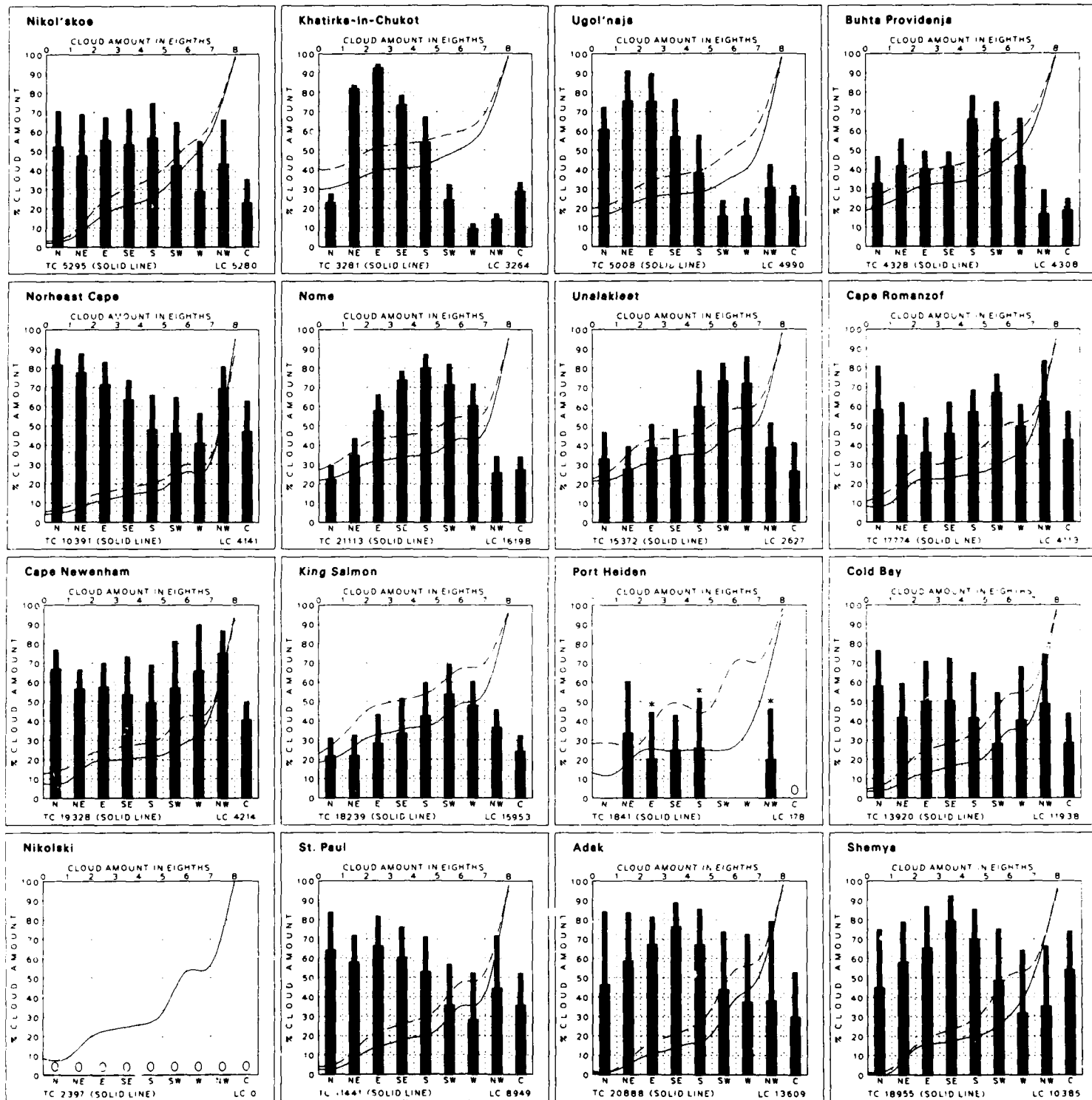


October

6 Cloud Cover and Wind Direction

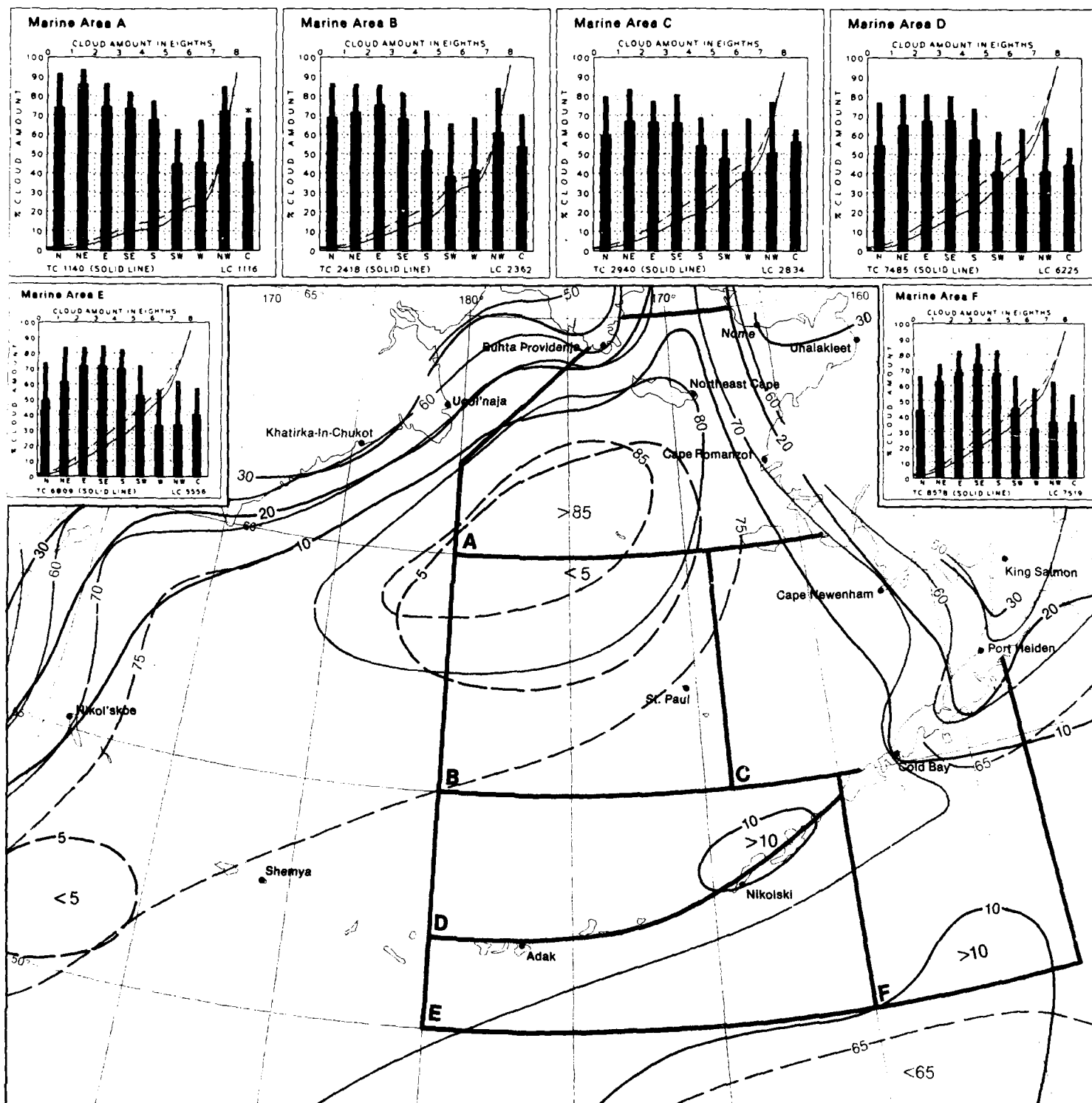
## October





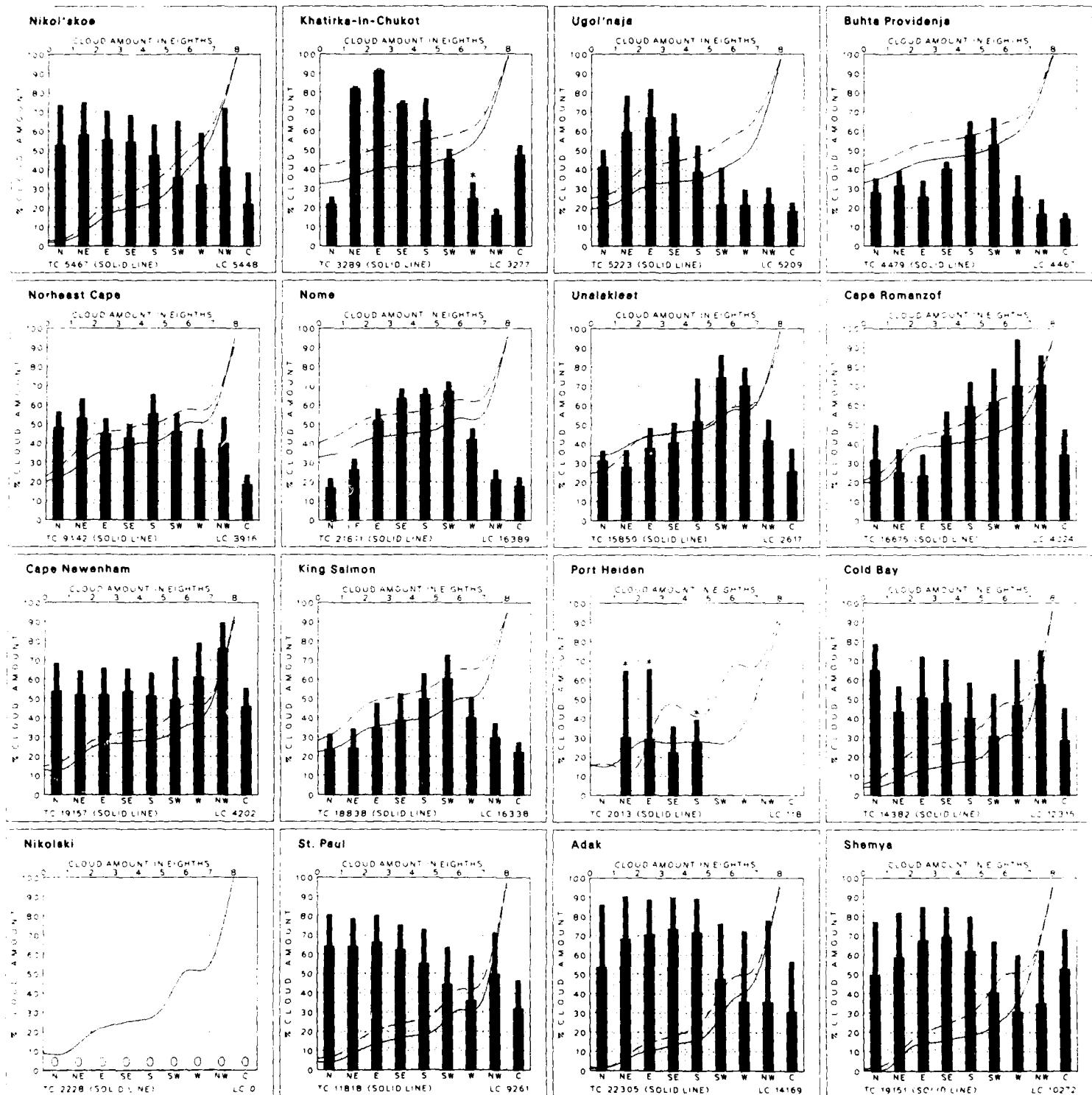
November

6 Cloud Cover and Wind Direction



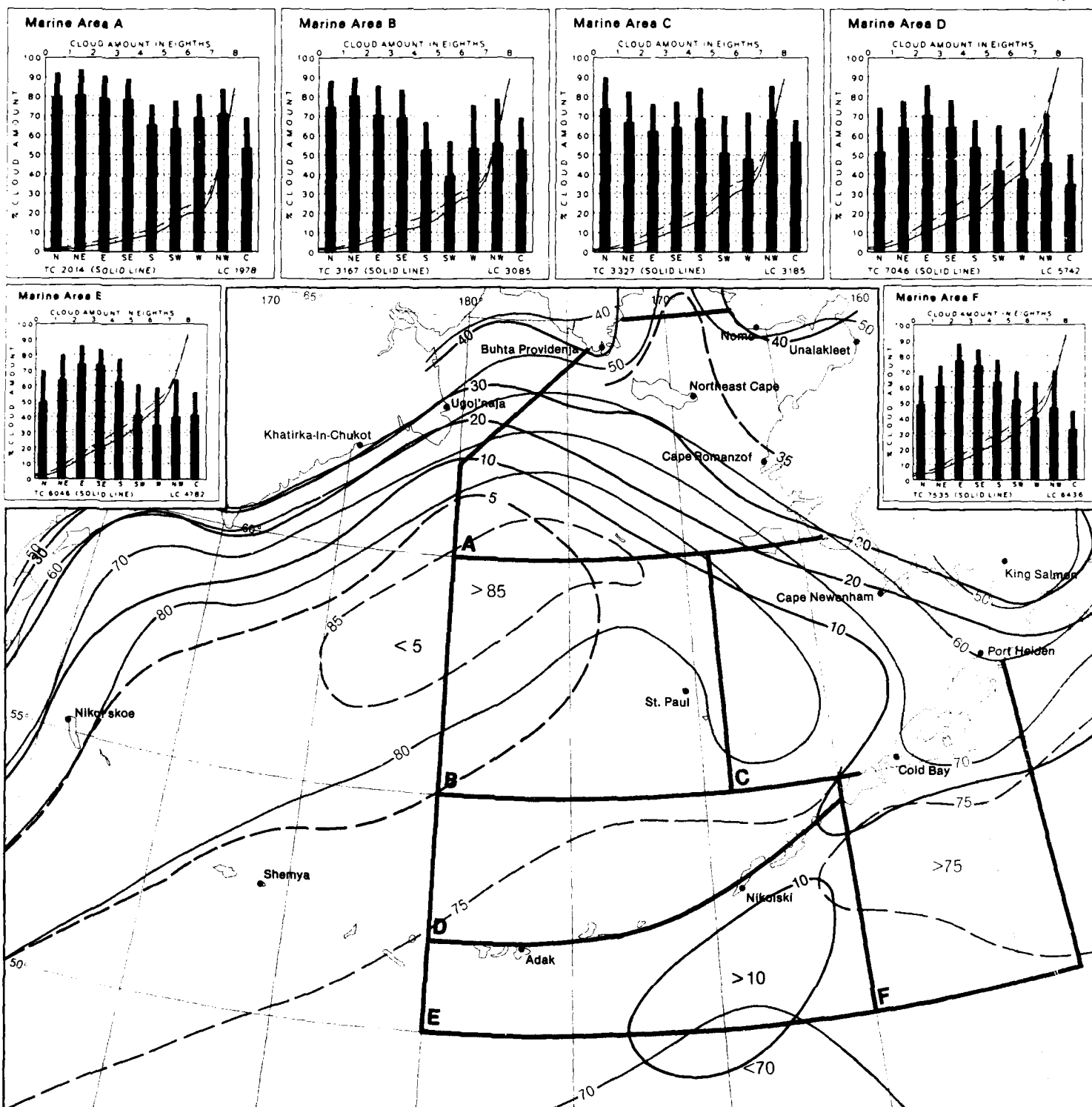
6 Clouds  $\leq 2/8$  and  $\geq 5/8$

November



December

6 Cloud Cover and Wind Directio



6 Clouds  $\leq 2/8$  and  $\geq 5/8$

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## Map 7. Air temperature extremes (°C)

BLACK LINE – Maximum (99%) air temperature (1% of temperatures were greater than the given value).

BLUE LINE – Minimum (1%) air temperature (1% of temperatures were equal to or less than the given value).

Albers Equal-Area Conic Projection

## Graphs: Air temperature/wind speed

1694

Wind Speed (knots)

TEMP (°C)

	0-3	4-10	11-21	22-33	≥34
8,9	+	+	+	+	+
6,7	+	1	2	2	1
4,5	1	7	13	9	1
2,3	2	5	11	6	1
0,1	1	3	5	4	+
-2,-1	1	2	4	3	1
-4,-3	+	1	4	3	+
-6,-5	+	1	1	1	1
-8,-7	0	+	+	+	+
-10,-9	0	+	+	+	+
-12,-11	0	0	0	0	0

Percent frequency of simultaneous occurrence of specified temperature (°C) and wind speed (knots).

Number of observations.

(2% of all observations reported temperature 6-7°C simultaneously with wind speed of 22-33 knots.)

+ Indicates <.5% but >0.

Air temperature is one of the elements most frequently observed by mariners. On many ships, the heating effect of the ship's structure has a tendency to produce higher than actual ambient air temperature readings because of instrument exposure. This is especially true under calm, sunny conditions. Despite the inaccuracies, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate.

The temperature scale of the graphs varies in both range and class interval. The graph can be used to determine the extent of human discomfort from the combined effects of extreme heat or cold and winds, or to estimate the likelihood of superstructure icing. Refer to Section I of this atlas for detailed information on superstructure icing and wind chill.

## Nikol'skoe

5870 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥6	0	0	0	0	0	0	0
4,5	0	+	0	+	+	0	0
2,3	+	+	+	1	1	1	1
0,1	+	2	5	3	1		
-2,-1	1	5	11	6	3		
-4,-3	1	5	8	5	2		
-6,-5	2	5	7	3	2		
-8,-7	2	4	5	2	1		
-10,-9	1	1	2	+	+		
-12,-11	+	1	1	+	+		
≤-13	+	+	+	+	+		

## Khatirka-In-Chukot

3669 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥4	5	5	7	3	+		
-6,-5	2	2	2	1	+		
-8,-7	1	1	3	1	1		
-10,-9	1	1	2	1	+		
-12,-11	1	1	1	2	1		
-14,-13	1	1	2	2	1		
-16,-15	1	1	2	2	1		
-18,-17	1	1	3	3	1		
-20,-19	1	+	2	2	+		
-22,-21	1	1	3	1	1		
≤-23	1	4	8	3	1		

## Ugol'naja

5256 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥6	3	4	7	7	3		
-8,-7	2	2	1	1	+		
-10,-9	1	+	1	1	+		
-12,-11	1	1	1	1	2		
-14,-13	1	1	1	2	2		
-16,-15	1	1	1	2	2		
-18,-17	1	1	1	2	3		
-20,-19	1	+	1	2	2		
-22,-21	1	1	1	2	2		
-24,-23	1	1	1	2	2		
≤-25	3	2	2	4	5		

## Buhta Providenja

4678 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥4	2	6	8	2	+		
-6,-5	1	2	4	+	+		
-8,-7	1	2	5	1	+		
-10,-9	1	1	2	1	+		
-12,-11	1	2	3	1	+		
-14,-13	2	2	2	1	+		
-16,-15	2	2	3	1	+		
-18,-17	3	3	3	1	+		
-20,-19	2	1	1	+	+		
-22,-21	3	2	1	+	+		
≤-23	12	3	1	+	+		

## Northeast Cape

8544 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥4	1	3	7	5	1		
-6,-5	1	2	2	1	+		
-8,-7	1	2	3	1	+		
-10,-9	1	1	3	1	+		
-12,-11	1	2	2	+	+		
-14,-13	1	3	3	1	+		
-16,-15	1	2	3	+	+		
-18,-17	2	4	3	1	+		
-20,-19	2	4	3	1	+		
-22,-21	2	2	2	+	0		
≤-23	8	6	4	+	0		

## Nome

22017 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥4	1	4	12	3	+		
-6,-5	1	2	3	1	+		
-8,-7	1	2	3	1	+		
-10,-9	1	3	3	1	+		
-12,-11	1	2	2	1	+		
-14,-13	2	2	3	1	+		
-16,-15	1	2	2	+	+		
-18,-17	2	2	2	1	+		
-20,-19	2	2	2	+	+		
-22,-21	1	2	1	+	+		
≤-23	12	9	2	+	+		

## Unalakleet

15434 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥6	1	4	10	4	+		
-8,-7	+	1	3	2	+		
-10,-9	+	2	3	2	+		
-12,-11	1	1	2	2	+		
-14,-13	1	2	3	2	+		
-16,-15	1	2	2	2	+		
-18,-17	1	2	3	2	+		
-20,-19	1	2	2	1	+		
-22,-21	1	2	1	1	+		
-24,-23	1	2	2	1	+		
≤-25	5	12	4	1	+		

## Cape Romanzof

17446 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥0	1	2	8	2	+		
-2,-1	1	2	5	2	+		
-4,-3	2	3	6	2	+		
-6,-5	2	1	3	1	+		
-8,-7	2	2	3	1	+		
-10,-9	2	1	2	1	+		
-12,-11	1	1	1	1	+		
-14,-13	2	1	1	2	1		
-16,-15	2	1	2	1	1		
-18,-17	1	1	2	1	+		
≤-19	3	3	6	6	3		

## Cape Newenham

18410 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥2	+	1	6	4	+		
0,1	1	4	9	3	+		
-2,-1	2	3	5	2	+		
-4,-3	3	3	4	1	+		
-6,-5	2	1	1	1	+		
-8,-7	3	2	1	1	+		
-10,-9	3	2	1	+	+		
-12,-11	2	1	1	1	+		
-14,-13	2	1	1	+	+		
-16,-15	2	1	1	+	+		
≤-17	6	5	6	1	0		

## King Salmon

19078 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥0	1	9	11	5	+		
-2,-1	1	4	2	+	+		
-4,-3	1	4	2	+	+		
-6,-5	1	3	1	+	0		
-8,-7	2	3	1	+	0		
-10,-9	2	3	1	+	0		
-12,-11	1	2	1	+	0		
-14,-13	2	2	1	+	0		
-16,-15	1	2	1	+	+		
-18,-17	1	2	1	+	0		
≤-19	6	11	7	1	+		

## Port Heiden

6361 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥6	+	+	1	+	+		
4,5	+	1	2	1	+		
2,3	1	4	9	4	1		
0,1	2	8	9	2	+		
-2,-1	2	8	3	+	0		
-4,-3	2	5	2	+	0		
-6,-5	1	3	2	+	+		
-8,-7	1	2	1	+	0		
-10,-9	1	2	1	+	0		
-12,-11	+	2	1	0	0		
≤-13	1	5	7	1	0		

## Cold Bay

13894 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥8	0	+	+	+	0		
6,7	+	+	+	+	1		
4,5	+	+	3	3	1		
2,3	+	2	10	6	1		
0,1	1	8	11	4	1		
-2,-1	1	4	4	1	+		
-4,-3	1	4	4	1	+		
-6,-5	1	3	2	1	+		
-8,-7	+	3	3	2	+		
-10,-9	+	2	3	1	+		
≤-11	+	2	3	1	+		

## Nikolski

2113 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥10	0	0	0	0	0	0	0
8,9	0	0	0	0	0	0	0
6,7	+	+	+	+	+	+	+
4,5	+	+	2	1	0		
2,3	1	4	9	4	+		
0,1	3	13	20	6	+		
-2,-1	3	6	7	3	+		
-4,-3	1	3	4	2	+		
-6,-5	1	1	2	1	+		
-8,-7	+	+	1	+	0		
≤-9	0	0	1	+	0		

## St. Paul

11604 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥6	0	0	+	+	+		
4,5	0	+	+	1	+		
2,3	+	2	8	5	+		
0,1	1	6	15	6	1		
-2,-1	1	3	6	2	+		
-4,-3	1	2	5	2	+		
-6,-5	1	2	3	3	+		
-8,-7	+	2	3	3	+		
-10,-9	+	1	3	2	+		
-12,-11	+	1	2	1	+		
≤-13	+	1	2	2	+		

## Adak

22766 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)		3	10	21	33	≥34	
≥10	0	0	0	0	0	0	0
8,9	0	+	+	+	+		
6,7	+	1	1	1	+		
4,5	1	3	3	1	+		
2,3	3	9	12	4	+		
0,1	4	10	14	5	+		
-2,-1	3	4	5	1	+		
-4,-3	3	3	3	1	+		
-6,-5	1	1	+	+	0		
-8,-7	1	+	+	+	0		
≤-9	1	+	0	0	0		

## Shemya

19232		Wind Speed (knots)						
TEMP (°C)		0-3	4-10	11-21	22-33	34-44	45-54	
≥8		0	0	0	+	0		
6,7		0	+	0	0	+		
4,5		+	+	+	1	+		
2,3		1	2	7	6	1		
0,1		3	7	16	9	2		
-2,-1		2	5	10	5	1		
-4,-3		2	4	7	3	+		
-6,-5		1	1	1	1	+		
-8,-7		+	+	+	+	+		
-10,-9		+	+	+	0	+		
≤-11		+	+	0	+	0		

Marine Area A

2807 Wind Speed (knots)		0-	3	10	11-	22-	33	34
TEMP	(°C)	0-	3	10	11-	22-	33	34
≥4	+	+	+	1	+	+		
2,3	+	+	1	3	1	+		
0,1	+	3	8	5	1			
-2,-1	1	3	7	4	1			
-4,-3	1	2	5	4	1			
-6,-5	+	1	3	3	1			
-8,-7	+	1	3	3	1			
-10,-9	+	1	2	3	1			
-12,-11	+	1	2	3	1			
-14,-13	+	1	2	1	1			
≤-15	+	2	5	4	1			

Marine Area B

4949 Wind Speed (knots)		0-	3	10	11-	22-	33	34
TEMP	(°C)	0-	3	10	11-	22-	33	34
≥8	+	+	+	+	+	+		
6,7	0	+	+	+	+	+		
4,5	+	1	2	2	+			
2,3	1	3	9	5	1			
0,1	1	5	12	8	2			
-2,-1	1	2	6	4	1			
-4,-3	+	2	5	3	1			
-6,-5	+	1	4	2	+			
-8,-7	+	1	3	2	+			
-10,-9	+	1	2	1	+			
≤-11	+	1	2	2	1			

Marine Area C

3884 Wind Speed (knots)		0-	3	10	11-	22-	33	34
TEMP	(°C)	0-	3	10	11-	22-	33	34
≥10	0	+	0	0	0			
8,9	0	+	+	+	+	0		
6,7	+	+	+	+	+	+		
4,5	+	2	6	3	1			
2,3	1	5	14	7	2			
0,1	1	5	10	5	1			
-2,-1	1	2	4	2	+			
-4,-3	1	1	2	2	+			
-6,-5	+	1	2	2	+			
-8,-7	+	1	2	2	1			
≤-9	+	+	2	2	1			

Marine Area D

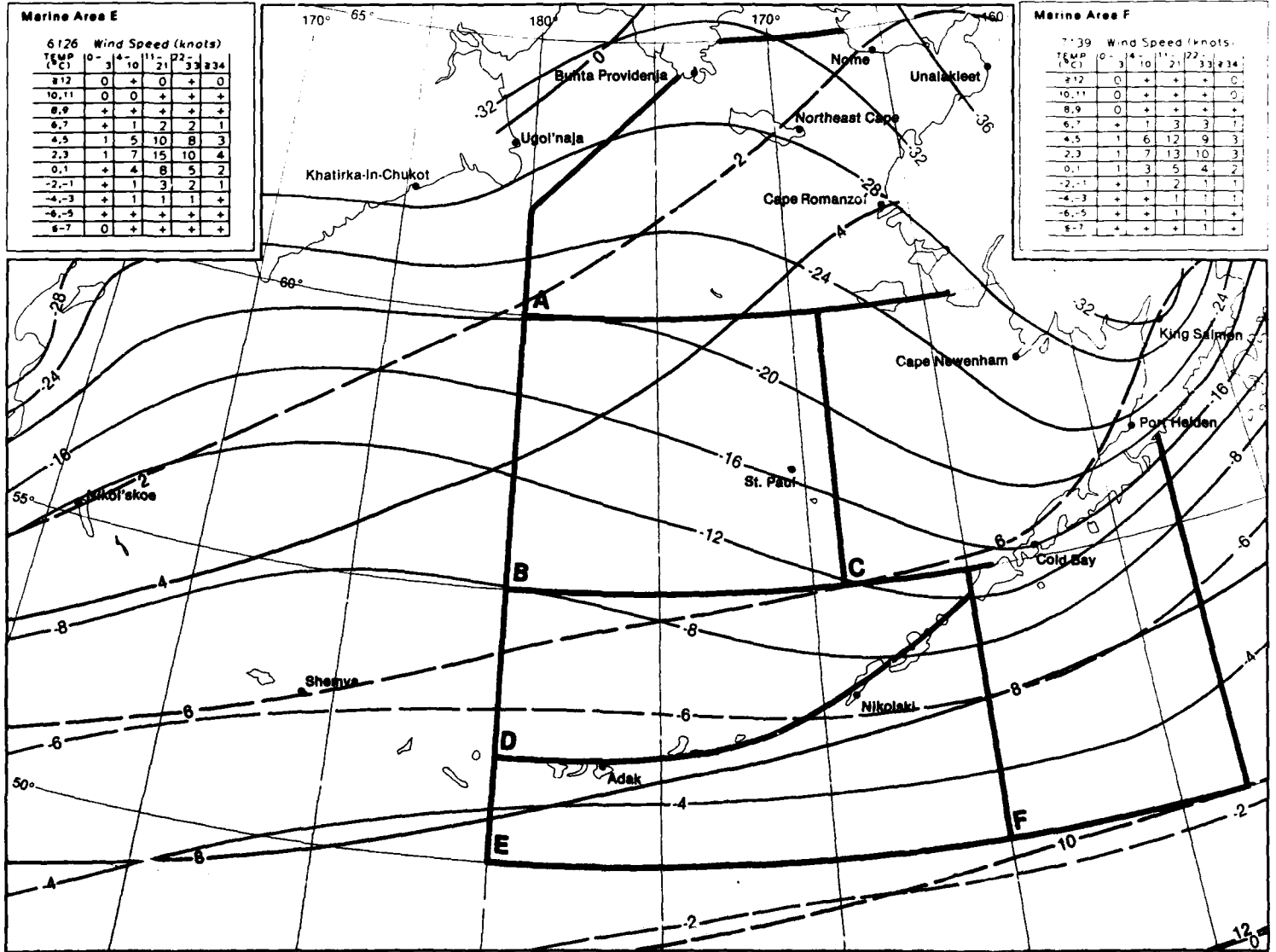
7576 Wind Speed (knots)		0-	3	10	11-	22-	33	34
TEMP	(°C)	0-	3	10	11-	22-	33	34
≥10	+	+	+	+	+	+		
8,9	+	+	+	+	+	+		
6,7	+	1	1	1	+			
4,5	+	3	7	6	2			
2,3	1	6	13	10	3			
0,1	1	4	10	8	3			
-2,-1	+	1	4	3	1			
-4,-3	+	1	2	2	1			
-6,-5	+	+	1	1	+			
-8,-7	+	+	+	+	+			
≤-9	0	+	+	+	+			

Marine Area E

6126 Wind Speed (knots)		0-	3	10	11-	22-	33	34
TEMP	(°C)	0-	3	10	11-	22-	33	34
≥12	0	+	0	+	0			
10,11	0	0	+	+	+			
8,9	+	+	+	+	+			
6,7	+	1	2	2	1			
4,5	1	5	10	8	3			
2,3	1	7	15	10	4			
0,1	+	4	8	5	2			
-2,-1	+	1	3	2	1			
-4,-3	+	1	1	1	+			
-6,-5	+	+	+	+	+			
≤-7	0	+	+	+	+			

Marine Area F

7139 Wind Speed (knots)		0-	3	10	11-	22-	33	34
TEMP	(°C)	0-	3	10	11-	22-	33	34
≥12	0	+	+	+	+	0		
10,11	0	+	+	+	+	0		
8,9	0	+	+	+	+	+		
6,7	+	1	3	3	1			
4,5	1	6	12	9	3			
2,3	1	7	13	10	3			
0,1	1	3	5	4	2			
-2,-1	+	1	2	1	1			
-4,-3	+	+	1	1	1			
-6,-5	+	+	1	1	+			
≤-7	+	+	+	+	1	+		



7 Air Temperature Extremes

January



## Nikol'skoe

5438	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥6	0	0	0	0	0	0	0
4,5	0	0	+	0	0	0	0
2,3	+	+	+	1	+	+	+
0,1	+	2	4	2	1		
-2,-1	1	4	9	7	3		
-4,-3	1	5	9	5	3		
-6,-5	2	5	8	4	1		
-8,-7	2	4	6	3	1		
-10,-9	1	1	2	1	+		
-12,-11	+	1	1	+	+		
≤-13	+	+	+	+	+		

## Khatirka-in-Chukot

3223	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	5	5	6	3	1		
-10,-9	1	1	1	1	+		
-12,-11	1	1	2	1	1		
-14,-13	1	1	2	2	1		
-16,-15	1	1	3	2	1		
-18,-17	1	2	5	4	2		
-20,-19	1	1	2	2	+		
-22,-21	1	1	5	3	1		
-24,-23	1	2	4	2	1		
-26,-25	1	2	3	1	1		
≤-27	1	4	4	1	1		

## Ugol'naia

4832	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	3	3	5	5	2		
-10,-9	1	1	1	+	+		
-12,-11	1	1	1	1	1		
-14,-13	1	1	1	1	1		
-16,-15	1	1	1	2	2		
-18,-17	2	1	2	3	3		
-20,-19	1	+	1	2	2		
-22,-21	1	1	1	3	4		
-24,-23	2	1	2	3	4		
-26,-25	2	1	2	3	3		
≤-27	3	2	3	3	5		

## Buhta Provideniia

4327	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	2	5	9	2	+		
-10,-9	1	1	2	+	+		
-12,-11	1	2	3	1	+		
-14,-13	1	2	4	1	+		
-16,-15	2	3	4	1	+		
-18,-17	3	3	4	1	+		
-20,-19	2	2	1	+	0		
-22,-21	4	3	2	+	+		
-24,-23	5	2	1	+	0		
-26,-25	4	2	1	+	0		
≤-27	8	2	+	+	+		

## Northeast Cape

8799	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	2	5	10	6	1		
-10,-9	1	2	2	1	+		
-12,-11	1	2	2	+	0		
-14,-13	1	2	2	1	+		
-16,-15	2	2	2	+	0		
-18,-17	2	3	3	+	+		
-20,-19	2	4	2	+	+		
-22,-21	2	3	2	+	0		
-24,-23	4	4	2	+	+		
-26,-25	3	3	2	+	+		
≤-27	7	7	2	0	0		

## Homa

20105	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥6	1	5	11	3	+		
-8,-7	1	2	3	1	+		
-10,-9	1	2	3	1	+		
-12,-11	1	2	2	+	+		
-14,-13	2	2	3	1	+		
-16,-15	1	2	1	+	+		
-18,-17	2	3	2	+	+		
-20,-19	2	3	2	+	+		
-22,-21	2	2	1	+	+		
-24,-23	3	3	1	+	+		
≤-25	13	8	1	+	+		

## Unalakleet

13972	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	1	6	12	4	+		
-10,-9	+	1	3	2	+		
-12,-11	1	1	2	2	+		
-14,-13	1	2	3	2	+		
-16,-15	1	1	2	1	+		
-18,-17	1	2	2	2	+		
-20,-19	1	2	2	1	+		
-22,-21	1	2	1	+	+		
-24,-23	1	2	1	+	+		
-26,-25	1	2	1	+	+		
≤-27	6	12	2	+	0		

## Cape Romanzof

16317	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥4	3	5	12	3	+		
-6,-5	2	1	2	1	+		
-8,-7	2	1	2	1	+		
-10,-9	2	1	2	2	+		
-12,-11	1	1	1	1	+		
-14,-13	2	1	2	2	1		
-16,-15	1	1	2	2	1		
-18,-17	1	1	2	2	1		
-20,-19	1	1	2	2	1		
-22,-21	1	1	2	2	1		
≤-23	1	3	5	4	1		

## Cape Newenham

17474	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥2	+	1	4	2	+		
0,1	1	3	9	2	+		
-2,-1	2	3	5	1	+		
-4,-3	2	3	3	1	+		
-6,-5	1	2	2	1	+		
-8,-7	2	1	1	+	+		
-10,-9	2	2	1	+	+		
-12,-11	2	2	1	+	+		
-14,-13	2	2	2	+	+		
-16,-15	1	2	1	+	0		
≤-17	6	8	9	2	+		

## King Salmon

17369	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥2	2	11	13	3	+		
-4,-3	1	4	2	+	0		
-6,-5	1	2	1	+	0		
-8,-7	1	3	2	+	0		
-10,-9	1	3	1	+	0		
-12,-11	1	2	1	+	0		
-14,-13	1	3	2	+	0		
-16,-15	1	2	1	+	0		
-18,-17	1	2	2	+	0		
-20,-19	1	3	2	+	0		
≤-21	4	10	6	+	+		

## Port Heiden

5709	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥4	+	1	3	2	+		
2,3	1	2	6	3	+		
0,1	1	6	6	1	+		
-2,-1	1	5	3	+	0		
-4,-3	1	4	2	+	0		
-6,-5	1	3	2	+	0		
-8,-7	1	2	2	+	0		
-10,-9	1	3	2	+	0		
-12,-11	1	2	2	+	0		
-14,-13	1	2	3	+	0		
≤-15	1	9	10	2	0		

## Cold Bay

12682	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥6	+	+	+	+	+		
4,5	+	+	1	1	+		
2,3	+	3	8	5	1		
0,1	1	7	11	4	1		
-2,-1	1	4	5	1	+		
-4,-3	1	5	5	1	+		
-6,-5	+	2	4	1	+		
-8,-7	1	2	5	2	+		
-10,-9	+	2	3	2	+		
-12,-11	+	1	1	1	+		
≤-13	+	1	2	1	+		

## Nikolaki

1947	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	0	0	0	0	0	0	0
6,7	0	0	0	0	0	+	
4,5	+	+	1	1	0		
2,3	1	3	5	2	+		
0,1	5	12	14	6	+		
-2,-1	3	7	9	3	+		
-4,-3	1	6	7	4	+		
-6,-5	+	1	3	1	+		
-8,-7	0	1	1	1	0		
-10,-9	0	+	+	+	0		
≤-11	0	0	0	0	0		

## St. Paul

10600	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥4	0	+	+	+	+		
2,3	+	1	3	2	+		
0,1	+	4	14	4	1		
-2,-1	+	3	6	3	+		
-4,-3	1	2	5	2	+		
-6,-5	+	1	3	3	+		
-8,-7	+	2	3	3	1		
-10,-9	+	1	4	3	1		
-12,-11	+	1	2	2	+		
-14,-13	+	1	2	2	+		
≤-15	+	2	6	3	+		

## Adak

21407	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥10	0	0	0	0	0		
8,9	+	+	+	+	+		
6,7	+	+	1	+	+		
4,5	+	2	2	1	+		
2,3	2	8	10	4	1		
0,1	5	11	13	5	1		
-2,-1	2	5	7	2	+		
-4,-3	2	3	4	1	+		
-6,-5	1	1	1	+	+		
-8,-7	1	+	+	+	0		
≤-9	1	+	+	+	0		

## Shemya

17572	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	≥34		
≥8	0	0	0	0	0		
6,7	0	0	+	+	0		
4,5	+	+	+	+			
2,3	1	1	5	3	1		
0,1	3	7	15	9	2		
-2,-1	2	6	12	6	1		
-4,-3	3	4	8	4	1		
-6,-5	1	1	1	1	+		
-8,-7	+	+	+	+	0		
-10,-9	+	+	0	0	0		
≤-11	+	+	0	0	0		

## Marine Area A

1630	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥0	1	2	5	3	1		
-2,-1	+	3	7	3	1		
-4,-3	+	2	4	2	+		
-6,-5	+	2	3	2	+		
-8,-7	+	1	3	3	+		
-10,-9	+	1	2	2	+		
-12,-11	+	1	4	4	1		
-14,-13	+	1	5	4	1		
-16,-15	+	1	5	4	1		
-18,-17	+	1	3	2	1		
≤-19	+	1	3	2	1		

## Marine Area B

6145	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥4	+	+	1	1	+		
2,3	+	1	3	2	1		
0,1	+	2	6	4	1		
-2,-1	+	2	4	3	1		
-4,-3	+	2	4	2	1		
-6,-5	+	2	4	3	1		
-8,-7	+	2	5	4	1		
-10,-9	+	2	5	4	1		
-12,-11	+	1	4	3	1		
-14,-13	+	1	3	2	1		
≤-15	+	1	3	2	1		

## Marine Area C

4298	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥8	0	+	+	+	+		
6,7	+	+	+	+	+		
4,5	+	1	2	1	+		
2,3	+	4	11	6	1		
0,1	1	5	12	6	1		
-2,-1	+	2	5	7	1		
-4,-3	+	1	3	2	1		
-6,-5	+	2	3	3	1		
-8,-7	+	1	3	2	1		
-10,-9	+	1	1	1	1		
≤-11	+	1	3	4	1		

## Marine Area D

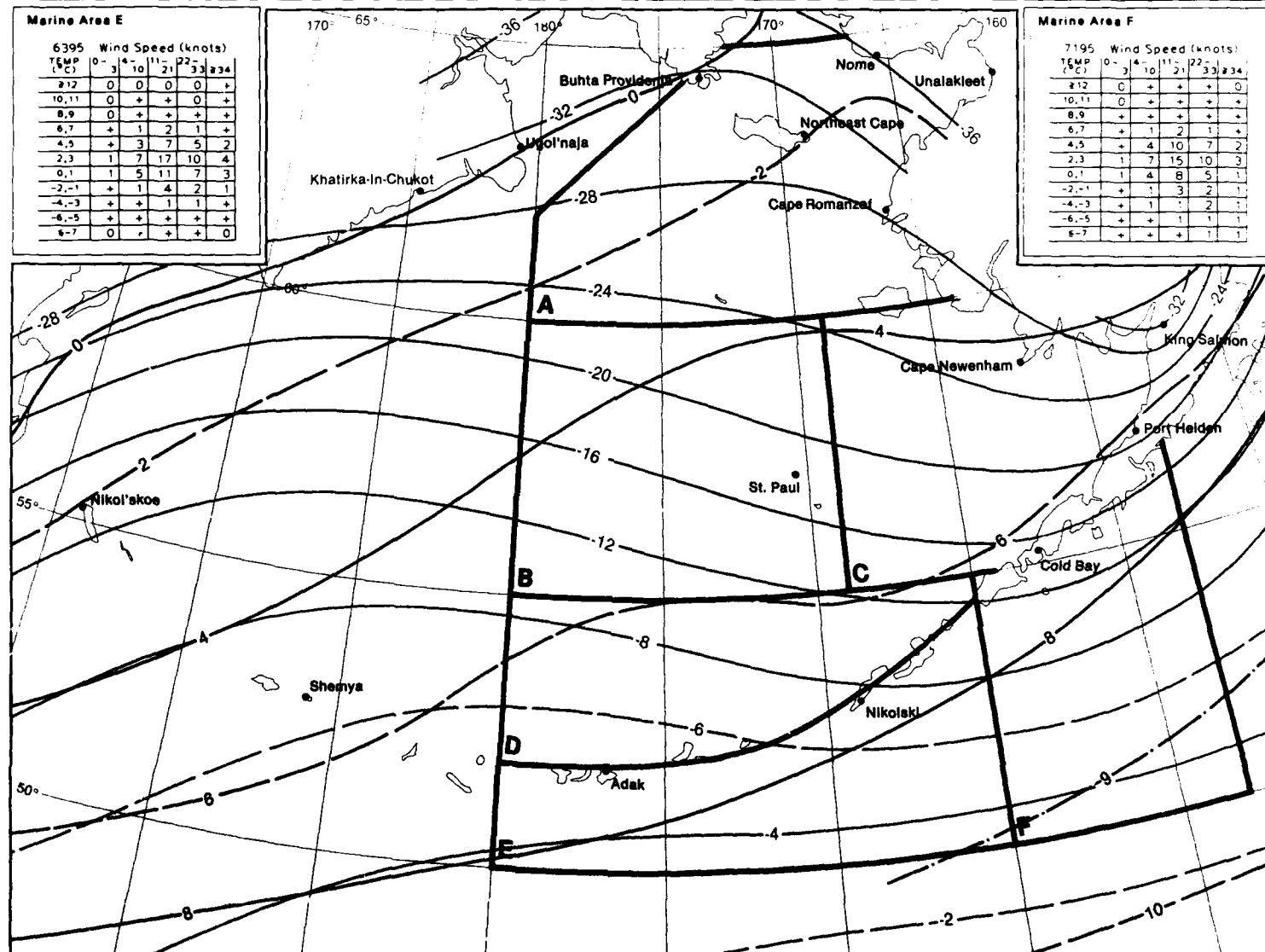
7683	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥10	+	+	+	+	+		
8,9	+	+	+	+	+		
6,7	+	1	1	1	+		
4,5	+	3	6	4	1		
2,3	1	6	14	10	3		
0,1	1	4	10	7	3		
-2,-1	+	2	4	4	1		
-4,-3	+	1	3	2	1		
-6,-5	+	+	2	2	1		
-8,-7	+	+	+	1	+		
≤-9	+	+	+	+	+		

## Marine Area E

6395	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥12	0	0	0	0	+		
10,11	0	+	+	+	+		
8,9	0	+	+	+	+		
6,7	+	1	2	1	+		
4,5	+	3	7	5	2		
2,3	1	7	17	10	4		
0,1	1	5	11	7	3		
-2,-1	+	1	4	2	1		
-4,-3	+	+	1	1	+		
-6,-5	+	+	+	+	+		
≤-7	0	+	+	+	0		

## Marine Area F

7195	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥12	0	+	+	+	+	0	
10,11	0	+	+	+	+	+	
8,9	+	+	+	+	+	+	
6,7	+	1	2	1	+		
4,5	+	4	10	7	2		
2,3	1	7	15	10	3		
0,1	1	4	8	5	1		
-2,-1	+	1	3	2	1		
-4,-3	+	1	1	2	1		
-6,-5	+	+	1	1	1		
≤-7	+	+	+	1	1		



7 Air Temperature Extremes

February

## N'kol'skoe

5985 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	0	0	0	+	0		
4,5	0	0	+	0	0		
2,3	+	+	1	1	+		
0,1	+	2	5	2	1		
-2,-1	1	5	12	7	3		
-4,-3	2	6	10	4	3		
-6,-5	2	5	7	3	1		
-8,-7	2	3	4	2	1		
-10,-9	1	1	1	+	+		
-12,-11	+	1	1	+	+		
≤-13	+	+	+	+	+		

## Khatirka-In-Chukot

4034 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	4	4	5	2	+		
-8,-7	1	1	3	2	+		
-10,-9	1	1	1	1	+		
-12,-11	1	2	3	2	+		
-14,-13	1	2	4	2	1		
-16,-15	1	3	4	2	1		
-18,-17	1	4	6	3	1		
-20,-19	1	2	3	1	+		
-22,-21	1	3	4	1	+		
-24,-23	1	2	3	1	+		
≤-25	1	3	3	1	0		

## Ugol'neja

5279 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	3	4	5	4	2		
-10,-9	1	1	1	+	+		
-12,-11	1	1	1	1	1		
-14,-13	1	1	1	2	2		
-16,-15	1	1	2	2	2		
-18,-17	2	2	3	5	3		
-20,-19	1	1	1	3	3		
-22,-21	2	1	2	3	2		
-24,-23	1	1	2	3	2		
-26,-25	1	1	1	2	2		
≤-27	1	1	1	1	2		

## Buhta Providenja

4858 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	3	5	6	1	+		
-8,-7	2	2	3	1	+		
-10,-9	1	2	4	+	+		
-12,-11	2	3	4	1	+		
-14,-13	3	3	3	1	+		
-16,-15	3	4	3	1	+		
-18,-17	4	4	3	+	+		
-20,-19	3	2	2	+	+		
-22,-21	4	2	1	+	0		
-24,-23	4	2	1	+	0		
≤-25	8	1	1	0	0		

## Northeast Cape

9426 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	2	4	7	3	1		
-6,-5	1	1	1	1	+		
-8,-7	1	2	2	1	+		
-10,-9	1	2	2	1	+		
-12,-11	2	2	2	+	+		
-14,-13	3	4	3	1	+		
-16,-15	3	3	2	+	0		
-18,-17	3	4	3	+	0		
-20,-19	3	4	2	+	0		
-22,-21	2	2	1	+	0		
≤-23	7	6	2	+	0		

## Nome

21305 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	1	5	9	2	+		
-6,-5	1	2	2	1	+		
-8,-7	1	3	3	1	+		
-10,-9	2	3	3	1	+		
-12,-11	1	3	2	+	+		
-14,-13	2	4	3	1	+		
-16,-15	2	3	2	+	+		
-18,-17	2	3	2	+	0		
-20,-19	3	3	1	+	0		
-22,-21	2	2	1	+	0		
≤-23	11	6	1	+	0		

## Unalakleet

14470 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	1	6	10	3	+		
-6,-5	+	2	3	1	+		
-8,-7	+	2	4	1	+		
-10,-9	1	3	4	+	+		
-12,-11	1	2	3	1	+		
-14,-13	1	3	4	1	+		
-16,-15	1	2	2	1	+		
-18,-17	1	3	2	1	+		
-20,-19	1	3	1	+	+		
-22,-21	1	2	1	+	0		
≤-23	5	8	3	+	+		

## Cape Romanzof

18136 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	1	3	5	1	+		
-2,-1	1	2	6	2	+		
-4,-3	2	3	5	2	+		
-6,-5	1	1	2	1	+		
-8,-7	2	2	3	1	+		
-10,-9	2	2	3	2	+		
-12,-11	2	1	2	2	+		
-14,-13	2	2	3	3	1		
-16,-15	2	1	2	1	+		
-18,-17	2	1	2	1	+		
≤-19	2	3	6	3	+		

## Cape Newenham

19576 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	+	+	+	+	+		
2,3	1	1	3	1	+		
0,1	3	6	10	2	+		
-2,-1	3	5	6	2	+		
-4,-3	3	4	4	1	+		
-6,-5	2	2	2	1	+		
-8,-7	2	3	2	+	+		
-10,-9	2	3	2	+	+		
-12,-11	1	2	1	+	+		
-14,-13	2	2	2	+	+		
≤-15	3	4	5	1	+		

## King Salmon

19064 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	+	2	3	1	+		
2,3	1	4	5	2	+		
0,1	1	7	6	1	+		
-2,-1	1	5	3	+	+		
-4,-3	2	5	3	+	+		
-6,-5	1	3	1	+	0		
-8,-7	1	4	2	+	0		
-10,-9	1	3	2	+	+		
-12,-11	1	2	1	+	+		
-14,-13	1	3	2	+	0		
≤-15	4	9	5	+	0		

## Port Heiden

6377 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	+	+	+	+	0		
6,7	+	1	1	+	0		
4,5	+	2	3	1	+		
2,3	1	5	8	2	1		
0,1	2	9	9	2	+		
-2,-1	2	7	5	1	+		
-4,-3	1	5	4	+	+		
-6,-5	1	3	2	+	0		
-8,-7	+	2	3	+	0		
-10,-9	+	2	2	+	0		
≤-11	1	5	4	1	0		

## Cold Bay

13876 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	0	+	+	+	+		
6,7	+	+	+	+	+		
4,5	+	1	2	2	+		
2,3	+	4	9	5	1		
0,1	1	8	12	6	1		
-2,-1	1	4	5	2	+		
-4,-3	1	4	5	2	+		
-6,-5	+	2	4	1	+		
-8,-7	+	2	3	1	+		
-10,-9	+	1	2	1	+		
≤-11	+	2	3	1	+		

## Nikolski

2057 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥10	0	0	+	0	0		
8,9	+	0	0	0	0		
6,7	+	+	0	+	0		
4,5	+	1	2	+	0		
2,3	2	6	8	3	+		
0,1	4	12	19	7	+		
-2,-1	2	4	8	3	+		
-4,-3	1	3	5	3	+		
-6,-5	+	1	2	1	+		
-8,-7	+	1	1	1	0		
≤-9	0	0	0	+	0		

## St. Paul

11595 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥6	0	+	+	+	0		
2,3	+	1	2	1	+		
0,1	+	5	14	6	+		
-2,-1	+	4	7	3	+		
-4,-3	1	3	6	3	+		
-6,-5	+	2	4	2	+		
-8,-7	+	2	5	2	+		
-10,-9	+	1	3	2	+		
-12,-11	+	1	2	1	+		
-14,-13	+	1	2	2	+		
≤-15	+	2	3	2	+		

## Adak

22293 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	3	10	21	33	≥34		
≥10	0	+	0	0	0		
8,9	0	+	+	+	+		
6,7	+	1	1	+	+		
4,5	1	3	4	2	+		
2,3	3	10	14	4	1		
0,1	4	11	15	6	1		
-2,-1	2	4	4	1	+		
-4,-3	2	2	2	1	+		
-6,-5	1	+	+	+	+		
-8,-7	+	+	+	0	0		
≤-9	+	+	0	0	0		

## Shemya

19308		Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34	
	3	10	21	33	≥34		
≥10	0	0	0	0	0	0	
8,9	0	0	0	0	0	0	
6,7	0	0	0	+	0	0	
4,5	+	+	+	+	+	+	
2,3	1	2	7	5	1		
0,1	4	8	18	12	2		
-2,-1	2	6	9	6	1		
-4,-3	1	3	5	2	+		
-6,-5	+	1	1	+	+		
-8,-7	+	+	+	+	+	0	
≤-9	+	+	+	0	0	0	

## Marine Area A

1218	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	34	
≥0	+	1	4	2	1	
-2,-1	+	4	8	4	1	
-4,-3	+	2	4	2	1	
-6,-5	+	1	2	3	1	
-8,-7	+	2	3	2	1	
-10,-9	+	2	2	3	+	
-12,-11	1	3	4	3	2	
-14,-13	1	2	2	2	1	
-16,-15	+	2	4	2	+	
-18,-17	1	2	3	1	+	
≤-19	+	2	2	1	1	

## Marine Area B

5571	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	34	
≥6	+	+	+	+	+	
4,5	+	+	1	1	+	
2,3	+	2	5	3	+	
0,1	1	4	9	5	1	
-2,-1	1	4	8	4	1	
-4,-3	1	2	5	3	1	
-6,-5	+	2	4	3	1	
-8,-7	+	2	3	2	+	
-10,-9	+	1	3	2	+	
-12,-11	+	1	2	2	+	
≤-13	+	1	3	2	+	

## Marine Area C

5089	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	34	
≥8	+	+	+	0	+	
6,7	+	+	+	+	0	
4,5	+	1	2	+	+	
2,3	1	6	12	6	+	
0,1	1	6	12	5	+	
-2,-1	1	5	5	3	+	
-4,-3	1	3	4	2	+	
-6,-5	+	1	3	2	+	
-8,-7	+	1	2	1	+	
-10,-9	+	1	2	1	+	
≤-11	+	1	2	1	+	

## Marine Area D

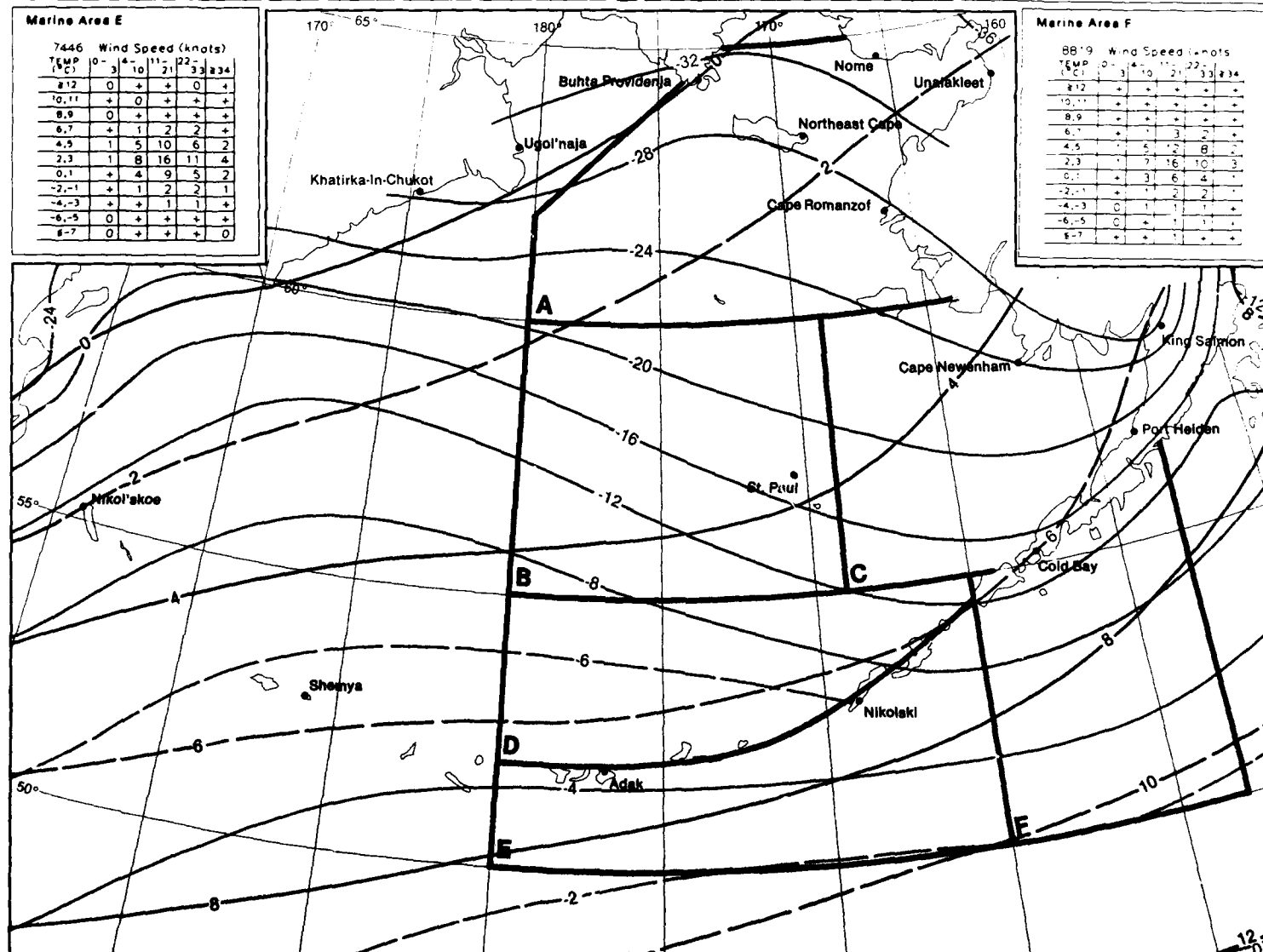
906	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	34	
≥12	+	+	+	+	0	
10,11	+	+	+	+	+	
8,9	+	+	+	+	+	
6,7	+	1	2	1	+	
4,5	+	3	6	6	+	
2,3	1	6	15	11	4	
0,1	1	4	9	7	3	
-2,-1	+	2	3	3	+	
-4,-3	+	+	2	2	+	
-6,-5	+	+	+	1	+	
≤-7	+	+	+	1	+	

## Marine Area E

7446	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	34	
≥12	0	+	+	0	+	
10,11	+	0	+	+	+	
8,9	0	+	+	+	+	
6,7	+	1	2	2	+	
4,5	1	5	10	6	2	
2,3	1	8	16	11	4	
0,1	+	4	9	5	2	
-2,-1	+	1	2	2	1	
-4,-3	+	+	1	1	+	
-6,-5	0	+	+	+	+	
≤-7	0	+	+	+	0	

## Marine Area F

8819	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	34	
≥12	+	+	+	+	+	
10,11	+	+	+	+	+	
8,9	+	+	+	+	+	
6,7	+	1	3	2	+	
4,5	+	5	2	8	+	
2,3	1	7	16	10	3	
0,1	+	3	6	4	+	
-2,-1	0	1	2	2	+	
-4,-3	0	1	1	1	+	
-6,-5	0	+	+	+	+	
≤-7	+	+	+	+	+	



7 Air Temperature Extremes

March

## Nikol'skoe

5567 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	0	0	+	0	0	0	
6.7	+	+	0	0	0	0	
4.5	+	+	+	+	+	0	
2.3	1	3	4	2	+		
0.1	2	7	12	4	1		
-2,-1	3	11	15	6	2		
-4,-3	2	6	6	3	1		
-6,-5	1	2	2	1	+		
-8,-7	1	1	1	+	+		
-10,-9	+	+	+	+	+		
≤-11	+	+	0	0	0		

## Khatirka-In-Chukot

3758 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	1	1	+	+	0		
-2,-1	3	3	3	+	+		
-4,-3	3	3	2	1	+		
-6,-5	3	3	2	1	+		
-8,-7	3	4	5	3	1		
-10,-9	2	2	3	1	+		
-12,-11	3	4	3	2	1		
-14,-13	2	4	3	1	1		
-16,-15	2	3	3	1	+		
-18,-17	2	3	3	1	+		
≤-19	2	2	1	+	+		

## Ugol'naja

5150 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	2	2	3	2	+		
-4,-3	2	2	2	1	+		
-6,-5	2	2	2	1	1		
-8,-7	3	3	2	1	1		
-10,-9	2	1	2	2	1		
-12,-11	3	2	3	2	2		
-14,-13	3	2	3	2	2		
-16,-15	3	2	4	3	2		
-18,-17	2	2	3	3	2		
-20,-19	+	1	1	1	1		
≤-21	1	1	1	1	1		

## Buhta Providenja

4616 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	1	2	2	+	+		
-2,-1	1	4	2	+	+		
-4,-3	2	5	2	+	0		
-6,-5	2	4	3	+	0		
-8,-7	4	5	3	1	+		
-10,-9	2	3	2	+	+		
-12,-11	4	4	3	+	+		
-14,-13	4	4	2	+	+		
-16,-15	5	4	2	+	0		
-18,-17	5	3	1	+	0		
≤-19	6	1	+	+	0		

## Northeast Cape

9853 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	1	3	6	3	1		
-2,-1	1	3	4	1	+		
-4,-3	1	3	5	1	+		
-6,-5	1	2	2	1	+		
-8,-7	2	3	3	+	+		
-10,-9	2	3	3	1	+		
-12,-11	1	3	2	+	0		
-14,-13	3	4	4	+	0		
-16,-15	2	3	2	+	0		
-18,-17	3	3	2	+	+		
≤-19	4	3	1	+	+		

## Nome

21332 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	+	1	2	+	0		
0.1	1	4	6	1	+		
-2,-1	1	4	5	1	+		
-4,-3	2	5	5	1	+		
-6,-5	2	3	3	1	+		
-8,-7	2	4	3	1	+		
-10,-9	2	4	3	+	+		
-12,-11	2	3	1	+	+		
-14,-13	2	4	2	+	+		
-16,-15	2	2	1	+	0		
≤-17	7	6	1	+	0		

## Unalakleet

14583 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	+	2	3	+	0		
2.3	1	3	4	+	+		
0.1	1	6	5	1	+		
-2,-1	1	4	4	1	+		
-4,-3	2	5	4	1	+		
-6,-5	1	4	3	+	+		
-8,-7	2	4	3	1	+		
-10,-9	1	3	2	+	0		
-12,-11	1	3	2	+	+		
-14,-13	1	3	2	+	+		
≤-15	4	9	2	+	+		

## Cape Romanzof

18673 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	+	1	1	+	0		
2.3	1	2	2	+	0		
0.1	1	4	7	2	+		
-2,-1	2	4	7	2	+		
-4,-3	2	4	6	2	+		
-6,-5	1	2	4	+	+		
-8,-7	1	2	3	1	+		
-10,-9	2	2	3	1	+		
-12,-11	1	2	2	1	+		
-14,-13	2	2	3	2	+		
≤-15	2	3	5	2	+		

## Cape Newenham

19052 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	+	+	+	+	0		
4.5	1	1	1	+	+		
2.3	2	3	5	2	+		
0.1	5	9	9	2	+		
-2,-1	4	6	5	1	+		
-4,-3	3	5	4	1	+		
-6,-5	1	3	3	+	+		
-8,-7	1	3	3	+	+		
-10,-9	1	2	3	+	0		
-12,-11	1	1	2	+	0		
≤-13	1	2	2	+	0		

## King Salmon

18473 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	+	2	2	+	+		
6.7	+	3	3	1	+		
4.5	1	4	3	1	+		
2.3	1	7	6	1	+		
0.1	3	11	6	+	0		
-2,-1	2	7	3	+	0		
-4,-3	2	6	3	+	0		
-6,-5	1	3	2	+	0		
-8,-7	1	4	2	+	0		
-10,-9	1	2	1	+	0		
≤-11	1	4	2	+	0		

## Port Heiden

6547 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	+	1	1	1	0		
6.7	+	2	3	1	+		
4.5	1	3	4	1	+		
2.3	1	7	6	1	0		
0.1	3	11	6	1	+		
-2,-1	2	7	3	+	0		
-4,-3	2	7	4	+	+		
-6,-5	1	3	4	+	0		
-8,-7	+	1	2	+	0		
-10,-9	+	1	1	+	0		
≤-11	+	2	2	+	0		

## Cold Bay

13437 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥10	+	+	+	+	0		
8.9	0	+	+	+	0		
6.7	+	1	1	1	+		
4.5	+	2	4	3	+		
2.3	+	5	11	6	1		
0.1	1	7	13	4	+		
-2,-1	+	4	6	2	+		
-4,-3	+	3	8	2	+		
-6,-5	+	2	3	1	+		
-8,-7	+	1	2	1	+		
≤-9	+	1	1	+	0		

## Nikolski

2086 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥10	+	+	0	0	0		
8.9	+	+	+	0	0		
6.7	+	+	+	+	0		
4.5	+	1	3	1	0		
2.3	1	7	14	4	+		
0.1	3	10	21	9	+		
-2,-1	1	3	5	4	+		
-4,-3	+	1	4	3	+		
-6,-5	0	+	1	+	0		
-8,-7	0	0	+	+	0		
≤-9	0	0	0	0	0		

## St. Paul

11095 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥8	0	0	0	0	0		
6.7	0	+	+	+	0		
4.5	+	+	1	+	+		
2.3	+	2	6	2	+		
0.1	1	7	19	5	+		
-2,-1	1	5	8	3	+		
-4,-3	3	6	3	+	+		
-6,-5	+	2	3	2	+		
-8,-7	+	2	4	2	+		
-10,-9	+	1	3	1	+		
≤-11	+	1	2	1	+		

## Adak

22294 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP	(°C)	3	10	21	33	≥34	
≥12	0	0	0	+	0		
10.11	0	+	+	+	0		
8.9	+	+	+	+	+		
6.7	+	2	3	1	+		
4.5	1	6	9	3	+		
2.3	3	13	18	5	1		
0.1	3	9	11	3	1		
-2,-1	1	2	2	1	+		
-4,-3	+	+	+	+	+		
-6,-5	+	+	0	0	0		
≤-7	+	0	0	0	0		

## Shemya

18679		Wind Speed (knots)					
TEMP	0-	4-	11-	22-	33	≥34	
(°C)	3	10	21	33	≥34		
≥10	0	0	0	0	0	0	
8.9	0	0	0	0	0	0	
6.7	0	+	+	0	0	0	
4.5	+	+	2	1	+	+	
2.3	2	7	20	9	1	1	
0.1	4	11	20	9	1	1	
-2,-1	1	3	4	2	+	+	
-4,-3	+	1	+	+	+	+	
-6,-5	+	+	+	+	0	0	
-8,-7	+	0	0	+	0	0	
≤-9	0	0	0	0	0	0	

**Marine Area A**

608	Wind Speed (knots)					
TEMP (°C)	0-	3	10	21	33	≥34
≥4	0	0	0	0	0	+
2,3	0	1	+	+	+	0
0,1	+	3	15	6	+	+
-2,-1	1	2	6	3	1	+
-4,-3	1	2	4	2	+	+
-6,-5	+	1	2	2	0	+
-8,-7	+	2	3	1	+	+
-10,-9	1	3	2	2	+	+
-12,-11	+	2	6	1	+	+
-14,-13	1	2	5	1	0	+
≤-15	1	4	5	2	+	+

**Marine Area B**

4380	Wind Speed (knots)					
TEMP (°C)	0-	3	10	21	33	≥34
≥8	+	+	+	0	0	0
6,7	0	+	+	+	+	0
4,5	+	1	2	1	+	+
2,3	+	4	11	4	1	+
0,1	1	6	12	5	1	+
-2,-1	1	4	9	5	1	+
-4,-3	1	3	5	3	+	+
-6,-5	1	2	4	2	+	+
-8,-7	+	1	2	1	+	+
-10,-9	+	1	2	1	+	+
≤-11	+	+	1	+	+	+

**Marine Area C**

6548	Wind Speed (knots)					
TEMP (°C)	0-	3	10	21	33	≥34
≥10	0	+	+	+	+	0
8,9	+	+	+	+	+	0
6,7	+	1	1	+	+	+
4,5	1	3	4	2	+	+
2,3	1	8	14	6	+	+
0,1	1	6	12	5	+	+
-2,-1	1	3	7	4	+	+
-4,-3	1	2	4	2	+	+
-6,-5	+	1	2	1	+	+
-8,-7	+	+	1	1	+	+
≤-9	+	+	+	+	+	+

**Marine Area D**

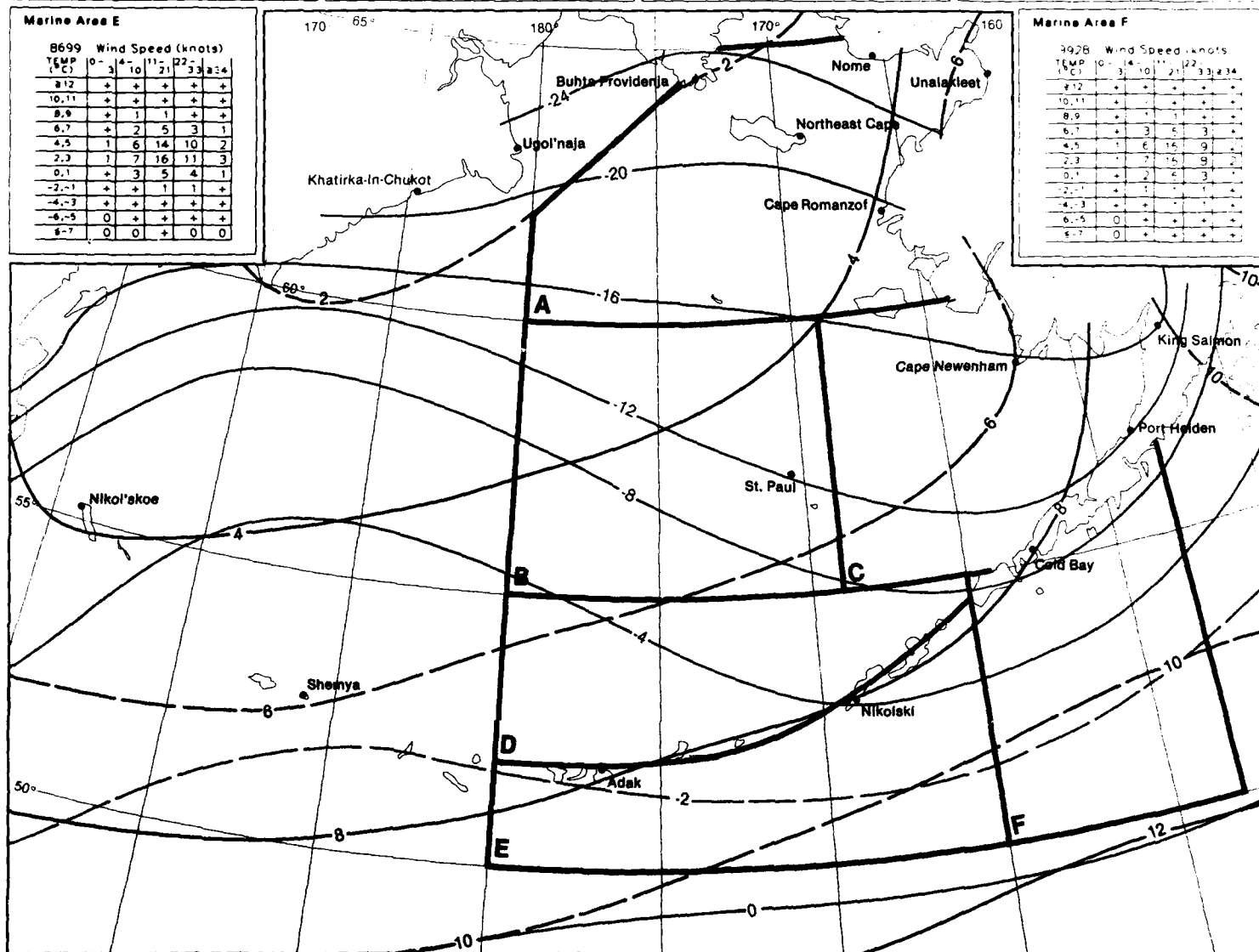
8247	Wind Speed (knots)					
TEMP (°C)	0	3	10	21	33	≥34
≥12	+	+	+	+	+	0
10,11	+	+	+	+	+	0
8,9	+	+	1	+	+	+
6,7	+	2	2	+	+	+
4,5	1	4	9	7	2	+
2,3	2	6	16	10	3	+
0,1	+	4	9	5	2	+
-2,-1	+	1	3	2	+	+
-4,-3	+	1	1	1	+	+
-6,-5	+	+	+	+	+	+
≤-7	0	+	+	+	+	0

**Marine Area E**

8699	Wind Speed (knots)					
TEMP (°C)	0-	3	10	21	33	≥34
≥12	+	+	+	+	+	+
10,11	+	+	+	+	+	+
8,9	+	1	1	+	+	+
6,7	+	2	5	3	1	+
4,5	1	6	14	10	2	+
2,3	1	7	16	11	3	+
0,1	+	3	5	4	1	+
-2,-1	+	+	1	1	+	+
-4,-3	+	+	+	+	+	+
-6,-5	0	+	+	+	+	+
≤-7	0	0	+	0	0	0

**Marine Area F**

3928	Wind Speed (knots)					
TEMP (°C)	0	3	10	21	33	≥34
≥12	+	+	+	+	+	+
10,11	+	+	+	+	+	+
8,9	+	1	1	+	+	+
6,7	+	3	5	3	+	+
4,5	1	6	14	9	+	+
2,3	1	7	16	9	2	+
0,1	+	2	4	3	+	+
-2,-1	+	+	1	1	+	+
-4,-3	+	+	+	+	+	+
-6,-5	0	+	+	+	+	+
≤-7	0	+	+	+	+	+



7 Air Temperature Extremes

April

## Nikol'skoye

5605	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
212	0	0	0	0	0	0
10,11	0	0	0	0	0	0
8,9	+	+	+	+	+	0
6,7	+	+	1	+	+	0
4,5	1	4	4	+	+	+
2,3	4	17	25	7	1	1
0,1	3	10	11	3	1	1
-2,-1	2	3	2	1	+	+
-4,-3	+	+	+	+	+	+
-6,-5	0	0	0	+	+	+
-8,-7	0	0	0	0	0	0

## Khatirka-In-Chukot

3396	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
28	+	+	+	+	0	0
6,7	+	+	+	+	+	0
4,5	1	1	1	1	+	0
2,3	7	5	4	1	0	0
0,1	10	7	3	+	+	+
-2,-1	15	10	5	2	+	+
-4,-3	5	4	2	1	+	+
-6,-5	2	1	1	+	+	+
-8,-7	1	1	1	+	+	+
-10,-9	1	1	+	+	+	+
-11	1	1	1	+	+	+

## Ugol'naya

4857	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
28	+	+	+	+	0	0
6,7	+	+	1	+	+	0
4,5	1	1	1	1	+	0
2,3	3	5	4	1	+	+
0,1	3	5	6	2	+	+
-2,-1	5	8	10	4	1	1
-4,-3	3	5	6	3	1	1
-6,-5	2	2	2	1	1	1
-8,-7	1	1	2	2	1	1
-10,-9	+	+	1	1	1	1
-11	1	1	2	1	+	+

## Buhta Provideniya

4519	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
28	+	1	+	+	+	0
6,7	1	2	1	+	+	0
4,5	1	4	2	+	+	0
2,3	5	9	3	+	+	0
0,1	5	10	3	+	+	+
-2,-1	8	12	4	+	+	+
-4,-3	5	5	1	+	+	0
-6,-5	2	3	1	+	+	0
-8,-7	2	2	1	+	+	0
-10,-9	1	1	+	+	0	0
-11	1	1	+	+	+	0

## Northeast Cape

10440	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
28	+	+	+	+	0	0
6,7	+	+	+	+	+	+
4,5	1	1	1	+	+	+
2,3	3	6	3	1	+	+
0,1	6	15	11	3	1	1
-2,-1	4	8	7	1	+	+
-4,-3	3	6	4	+	+	0
-6,-5	1	2	1	+	+	0
-8,-7	1	2	1	+	+	0
-10,-9	1	1	1	+	+	0
-11	1	1	1	+	+	0

## Nome

21320	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
212	+	1	2	+	0	0
10,11	+	2	2	+	0	0
8,9	+	3	2	+	0	0
6,7	1	5	3	+	0	0
4,5	1	5	4	+	0	0
2,3	2	9	6	+	+	+
0,1	2	12	7	1	+	+
-2,-1	2	6	2	+	+	+
-4,-3	2	4	1	+	+	+
-6,-5	1	1	1	+	0	0
-8,-7	2	3	1	+	0	0

## Unalakleet

14933	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
212	+	2	3	+	0	0
10,11	+	3	2	+	0	0
8,9	1	4	3	+	0	0
6,7	2	8	4	+	0	0
4,5	2	7	4	+	0	0
2,3	3	11	5	+	0	0
0,1	3	11	3	+	0	0
-2,-1	1	4	1	+	0	0
-4,-3	1	3	1	+	0	0
-6,-5	+	1	1	0	0	0
-8,-7	1	2	1	+	0	0

## Cape Romanzof

18892	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
210	+	1	1	+	+	0
8,9	+	2	1	+	+	0
6,7	2	5	3	+	+	0
4,5	2	5	4	+	+	0
2,3	3	6	6	+	+	0
0,1	4	8	9	+	+	0
-2,-1	3	5	6	+	+	0
-4,-3	2	4	3	+	+	0
-6,-5	1	1	1	+	+	0
-8,-7	+	1	1	+	+	0
-11	+	+	+	+	+	0

## Cape Newenham

19580	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
212	+	1	+	+	0	0
10,11	1	1	+	+	0	0
8,9	2	2	1	+	+	0
6,7	4	5	3	+	+	+
4,5	5	7	5	1	+	+
2,3	7	9	7	1	+	+
0,1	6	9	7	1	+	+
-2,-1	2	4	3	+	0	0
-4,-3	1	2	2	+	0	0
-6,-5	+	+	1	+	0	0
-8,-7	+	+	1	+	0	0

## King Salmon

18357	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
214	+	2	1	+	+	0
12,13	+	3	2	+	0	0
10,11	1	4	4	1	+	+
8,9	1	5	4	1	+	+
6,7	2	9	7	1	+	+
4,5	2	8	5	1	+	+
2,3	3	10	4	+	+	+
0,1	2	8	3	+	0	0
-2,-1	1	3	1	+	0	0
-4,-3	1	1	+	+	0	0
-5	+	1	+	+	0	0

## Port Heiden

6326	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
214	+	+	+	+	+	0
12,13	+	1	1	+	+	0
10,11	+	2	3	1	0	0
8,9	+	3	4	1	+	+
6,7	1	7	8	2	+	+
4,5	2	8	7	1	0	0
2,3	3	11	6	1	0	0
0,1	3	9	4	+	+	+
-2,-1	1	3	3	+	0	0
-4,-3	1	1	1	0	0	0
-5	+	1	+	+	0	0

## Cold Bay

13153	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
214	0	+	+	+	0	0
12,13	+	+	+	+	+	0
10,11	+	1	1	+	+	0
8,9	+	2	2	+	+	+
6,7	+	5	9	4	+	+
4,5	1	7	12	5	+	+
2,3	1	9	14	4	+	+
0,1	1	6	8	2	+	+
-2,-1	+	2	1	+	0	0
-4,-3	+	1	1	+	0	0
-5	+	+	+	+	0	0

## Nikolaki

2194	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
212	0	+	0	0	0	0
10,11	0	+	+	0	0	0
8,9	+	+	+	0	0	0
6,7	+	2	1	+	0	0
4,5	2	8	7	1	0	0
2,3	4	16	20	6	+	+
0,1	2	6	13	5	1	1
-2,-1	+	1	2	2	+	+
-4,-3	0	+	+	+	+	+
-6,-5	0	0	0	0	0	0
-8,-7	0	0	0	0	0	0

## St. Paul

10507	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
210	0	+	+	+	+	0
8,9	0	+	+	+	0	0
6,7	+	1	2	+	0	0
4,5	+	3	5	1	0	0
2,3	1	10	19	3	+	+
0,1	1	12	18	3	+	+
-2,-1	1	5	6	2	+	+
-4,-3	+	2	2	1	+	+
-6,-5	+	+	+	+	+	+
-8,-7	+	+	+	+	+	0
-9	+	+	+	+	+	0

## Adak

22328	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
214	+	+	+	+	0	0
12,13	+	+	+	+	0	0
10,11	+	+	+	+	0	0
8,9	+	1	1	+	+	+
6,7	1	9	9	2	+	+
4,5	3	15	14	4	1	1
2,3	5	12	12	3	+	+
0,1	2	2	2	+	+	+
-2,-1	+	+	+	0	0	0
-4,-3	+	+	0	0	0	0
-5	+	0	0	0	0	0

## Shemya

18837	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	10	21	22- 33 34
212	0	0	0	0	0	0
10,11	0	+	0	0	0	0
8,9	+	+	+	0	0	0
6,7	+	1	2	+	+	+
4,5	2	7	15	4	+	+
2,3	5	15	29	8	+	+
0,1	1	3	4	2	+	+
-2,-1	+	+	+	+	+	+
-4,-3	+	+	+	0	0	0
-6,-5	0	0	0	0	0	0
-8,-7	0	0	0	0	0	0

**Marine Area A**

1440	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34-40	41-50	51-60
≥10	+	+	+	+	+	+	+
8,9	+	+	+	+	+	+	+
6,7	+	+	+	+	+	+	+
4,5	+	+	+	+	+	+	+
2,3	2	10	10	3	1		
0,1	5	19	21	4	1		
-2,-1	1	5	4	2	+		
-4,-3	1	1	2	+	+		
-6,-5	+	+	+	+	+		
-8,-7	0	+	+	+	+		
≤-9	0	0	0	0	0		

**Marine Area B**

4350	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34-40	41-50	51-60
≥12	0	+	+	+	+	+	+
10,11	+	+	+	+	+	+	+
8,9	+	+	+	+	+	+	+
6,7	+	2	2	+	+	+	+
4,5	1	6	8	2	+	+	+
2,3	2	11	15	4	+	+	+
0,1	2	8	13	4	1		
-2,-1	1	4	5	2	+		
-4,-3	+	1	2	1	+		
-6,-5	+	+	+	+	+		
≤-7	+	+	+	+	+		

**Marine Area C**

9790	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34-40	41-50	51-60
≥12	+	+	+	+	+	+	+
10,11	+	1	+	+	+	+	+
8,9	1	2	1	+	+	+	+
6,7	2	5	3	1	+	+	+
4,5	2	9	11	3	+	+	+
2,3	2	10	14	4	+	+	+
0,1	1	6	9	3	+	+	+
-2,-1	+	2	2	1	+	+	+
-4,-3	+	+	+	+	+	+	+
-6,-5	+	+	+	+	+	+	+
≤-7	0	0	+	+	+	+	+

**Marine Area D**

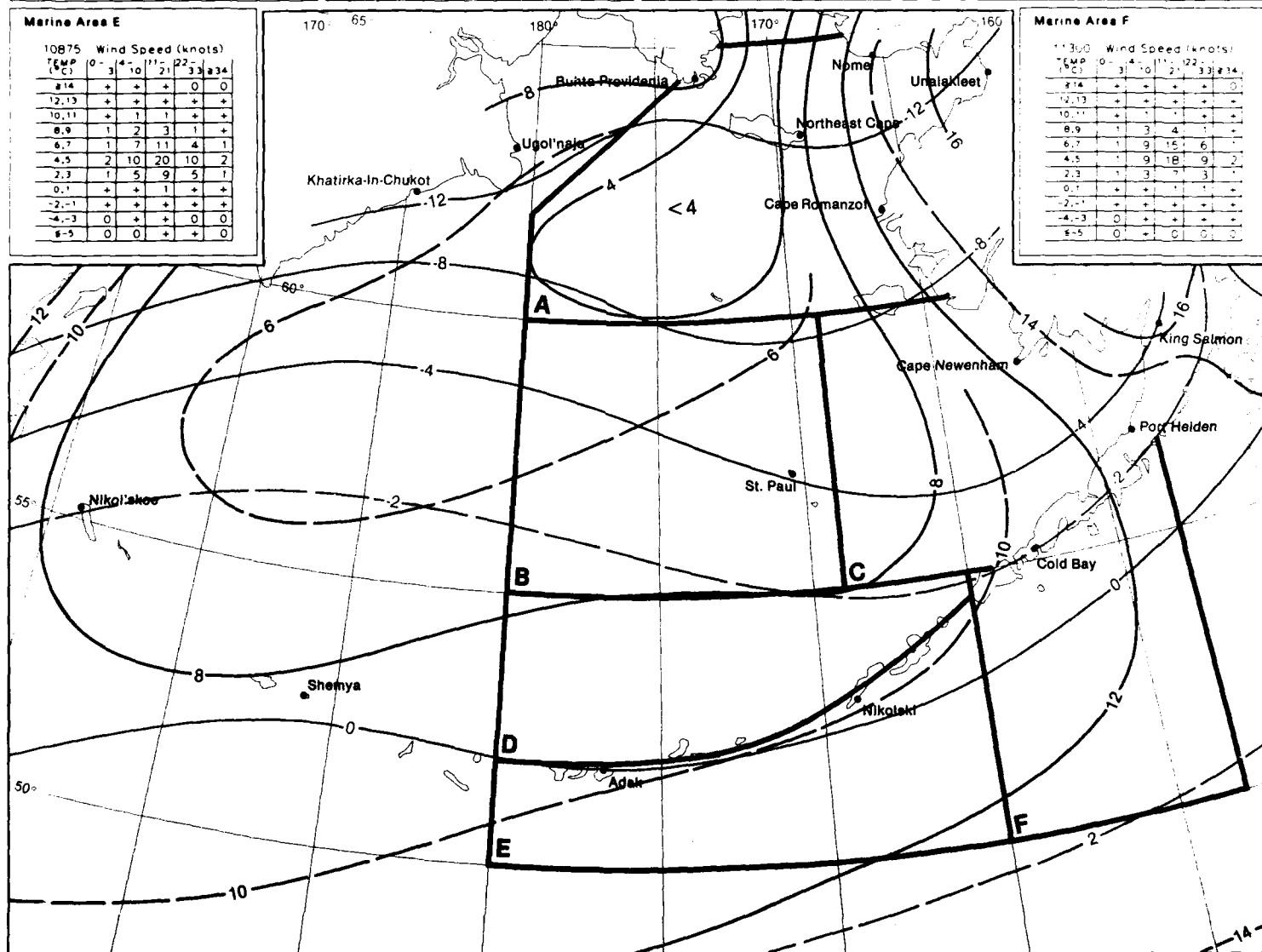
9357	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34-40	41-50	51-60
≥14	0	+	+	+	+	+	+
12,13	+	+	+	+	+	+	+
10,11	+	1	1	+	+	+	+
8,9	1	2	3	1	+	+	+
6,7	2	6	8	2	+	+	+
4,5	2	10	18	8	+	+	+
2,3	1	6	12	6	+	+	+
0,1	+	+	3	2	+	+	+
-2,-1	+	+	+	+	+	+	+
-4,-3	+	+	+	+	+	+	+
≤-5	0	0	0	0	0	0	0

**Marine Area E**

10875	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34-40	41-50	51-60
≥14	+	+	+	+	+	+	+
12,13	+	+	+	+	+	+	+
10,11	+	1	1	+	+	+	+
8,9	1	2	3	1	+	+	+
6,7	1	7	11	4	1	+	+
4,5	2	10	20	10	2	+	+
2,3	1	5	9	5	1	+	+
0,1	+	+	1	+	+	+	+
-2,-1	+	+	+	+	+	+	+
-4,-3	0	+	+	+	+	+	+
≤-5	0	0	+	+	+	+	+

**Marine Area F**

11300	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34-40	41-50	51-60
≥14	+	+	+	+	+	+	+
12,13	+	+	+	+	+	+	+
10,11	+	1	1	+	+	+	+
8,9	1	3	4	1	+	+	+
6,7	1	9	15	6	+	+	+
4,5	1	9	18	9	2	+	+
2,3	1	3	7	3	+	+	+
0,1	+	+	1	+	+	+	+
-2,-1	+	+	+	+	+	+	+
-4,-3	0	+	+	+	+	+	+
≤-5	0	0	0	0	0	0	0





## Nikol'skoe

5456		Wind Speed (knots)					
TEMP (°C)		0-3	4-10	11-21	22-33	≥34	
≥14		+	+	+	0	0	
12,13		+	+	+	+	+	0
10,11		+	1	+	+	+	0
8,9		1	2	2	+	+	0
6,7		2	10	10	2	+	
4,5		4	16	19	3	+	
2,3		4	10	10	2	+	
0,1		+	1	1	+	+	
-2,-1		+	0	+	0	0	
-4,-3		0	0	0	0	0	
≤-5		0	0	0	0	0	

## Khatirka-In-Chukot

3364		Wind Speed (knots)									
TEMP (°C)		0-3	4-10	11-21	22-33	≥34					
≥14		+	1	1	+	0					
12,13		+	1	1	+	0					
10,11		1	1	+	+	0					
8,9		2	2	1	+	0					
6,7		5	4	2	+	0					
4,5		13	10	5	1	+					
2,3		16	10	6	+	0					
0,1		6	3	1	+	0					
-2,-1		3	1	+	+	+					
-4,-3		+	+	0	+	+					
≤-5		0	0	0	0	0					

## Ugol'noje

4856		Wind Speed (knots)										
TEMP (°C)		0-3	4-10	11-21	22-33	≥34		0-3	4-10	11-21	22-33	≥34
≥14		1	2	1	+	+						
12,13		1	1	1	+	+						
10,11		1	2	1	+	+						
8,9		2	3	2	1	+						
6,7		2	5	4	1	+						
4,5		4	7	6	1	+						
2,3		5	12	9	2	+						
0,1		3	4	4	1	+						
-2,-1		1	3	2	1	+						
-4,-3		+	+	+	+	+						
≤-5		+	+	+	0	+						

## Buhta Provideniya

4473 Wind Speed (knots)		0-3		4-10		11-21		22-33		≥34		
TEMP (°C)		0-3	4-10	11-21	22-33	≥34		0-3	4-10	11-21	22-33	≥34
≥14		+	1	+	0	0						
12,13		1	2	+	0	0						
10,11		1	2	+	0	0						
8,9		3	4	1	0	0						
6,7		5	8	2	0	0						
4,5		9	13	3	+	0						
2,3		11	15	4	+	+						
0,1		5	5	1	0	0						
-2,-1		3	2	+	0	0						
-4,-3		1	+	+	0	0						
≤-5		+	+	0	0	0						

## Northeast Cape

9923		Wind Speed (knots)					
TEMP (°C)		0-3	4-10	11-21	22-33	≥34	
≥14		+	+	+	+	0	
12,13		+	1	1	+	0	
10,11		1	2	1	+	0	
8,9		1	3	2	+	0	
6,7		4	8	5	1	+	
4,5		4	9	5	1	+	
2,3		7	13	6	1	+	
0,1		6	11	3	+	0	
-2,-1		2	2	1	0	0	
-4,-3		+	+	+	0	0	
≤-5		0	0	0	0	0	

## Nome

20628		Wind Speed (knots)									
TEMP (°C)		0-3	4-10	11-21	22-33	≥34					
≥16		+	3	2	+	0					
14,15		+	2	1	+	0					
12,13		1	5	2	+	0					
10,11		1	8	3	+	0					
8,9		1	7	4	+	0					
6,7		3	11	5	+	0					
4,5		2	9	5	+	0					
2,3		2	8	4	+	0					
0,1		1	4	2	+	0					
-2,-1		+	1	+	0	0					
≤-3		+	+	0	0	0					

## Unalakleet

14458		Wind Speed (knots)									
TEMP (°C)		0-3	4-10	11-21	22-33	≥34					
≥18		+	1	1	+	+					
16,17		+	2	1	+	+					
14,15		+	3	2	+	0					
12,13		1	8	4	+	+					
10,11		3	13	5	+	+					
8,9		3	10	4	+	0					
6,7		3	11	4	+	0					
4,5		2	6	2	+	0					
2,3		1	5	1	+	0					
0,1		1	2	+	0	0					
≤-1		+	+	+	0	0					

## Cape Romanzof

17725 Wind Speed (knots)		0-3		4-10		11-21		22-33		≥34	
TEMP (°C)											
≥16		+	1	1	+						
14,15		+	1	1	+						
12,13		1	3	0	+						
10,11		2	5	3	+						
8,9		2	5	4	+						
6,7		4	9	6	1						
4,5		3	9	6	+						
2,3		3	9	5	+						
0,1		2	3	3	+						
-2,-1		+	1	1	+						
≤-3		+	+	+	+						

## Cape Newenham

18313		Wind Speed (knots)										
TEMP (°C)		0-	1	4-	10	21	22-	33	≥34			
≥16		+		+		+	0	0				
14,15		+		1		+	+	0				
12,13		2		2		1	+	0				
10,11		4		6		2	+	0				
8,9		5		8		4	+	0				
6,7		9		14		7	1	+				
4,5		6		8		5	+	+				
2,3		3		5		3	+	+				
0,1		1	1	1	1	1	+	+				
-2,-1		+	+	+	+	+	0	0				
≤-3		0	0	0	0	0	0	0				

## King Salmon

17756		Wind Speed (knots)										
TEMP		0-3		4-10		11-21		22-33		≥34		
(°C)												
≥20		+		2		1		+			0	
18,19		+		1		1		+			0	
16,17		+		3		2		+			0	
14,15		+		4		3		+			+	
12,13		1		7		4		1		+		
10,11		2		10		6		1		+		
8,9		2		10		4		+		+		
6,7		3		12		5		+		+		
4,5		1		6		2		+		+		
2,3		1		3		1		+		0		
≤1		+		1		+		0		0		

## Port Heiden

6135		Wind Speed (knots)											
TEMP (°C)		0-3	4-10	11-21	22-33	≥34		0-3	4-10	11-21	22-33	≥34	
≥18		+	+	+	0	0							
16,17		0	+	1	+	0							
14,15		+	1	1	+	+							
12,13		+	3	4	1	0							
10,11		1	8	7	1	+							
8,9		2	9	6	1	+							
6,7		5	14	8	1	+							
4,5		3	7	3	+	0							
2,3		2	5	2	+	0							
0,1		1	1	1	0	0							
≤-1		+	+	0	0	0							

### Marine Area A

2656	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	23-34
214	+	+	+	+	0	0	0
12,13	+	1	+	+	+	0	0
10,11	1	2	2	+	+	0	0
8,9	1	3	3	1	0	0	0
6,7	2	7	6	1	+	+	+
4,5	2	13	10	2	1	+	+
2,3	3	12	10	2	+	+	+
0,1	1	7	4	+	0	0	0
-2,-1	+	1	1	+	+	+	+
-4,-3	+	+	0	0	0	0	0
-5	0	0	0	0	0	0	0

### Marine Area B

6364	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	23-34
214	0	0	0	0	0	0	0
12,13	+	+	+	0	+	+	+
10,11	+	1	+	+	+	+	+
8,9	1	4	2	+	+	+	+
6,7	3	13	14	3	+	+	+
4,5	3	14	17	3	+	+	+
2,3	2	6	7	1	+	+	+
0,1	1	2	2	+	+	+	+
-2,-1	+	+	+	+	+	+	+
-4,-3	0	0	+	0	0	0	0
-5	0	0	0	0	0	0	0

### Marine Area C

10565	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	23-34
216	+	+	+	0	0	0	0
14,15	+	+	+	+	+	0	0
12,13	1	1	+	+	+	+	+
10,11	2	4	2	+	+	+	+
8,9	3	8	6	1	+	+	+
6,7	3	12	11	2	+	+	+
4,5	2	10	11	2	+	+	+
2,3	1	4	6	1	+	+	+
0,1	+	1	2	1	+	+	+
-2,-1	+	+	+	+	+	+	+
-3	0	0	0	+	+	+	+

### Marine Area D

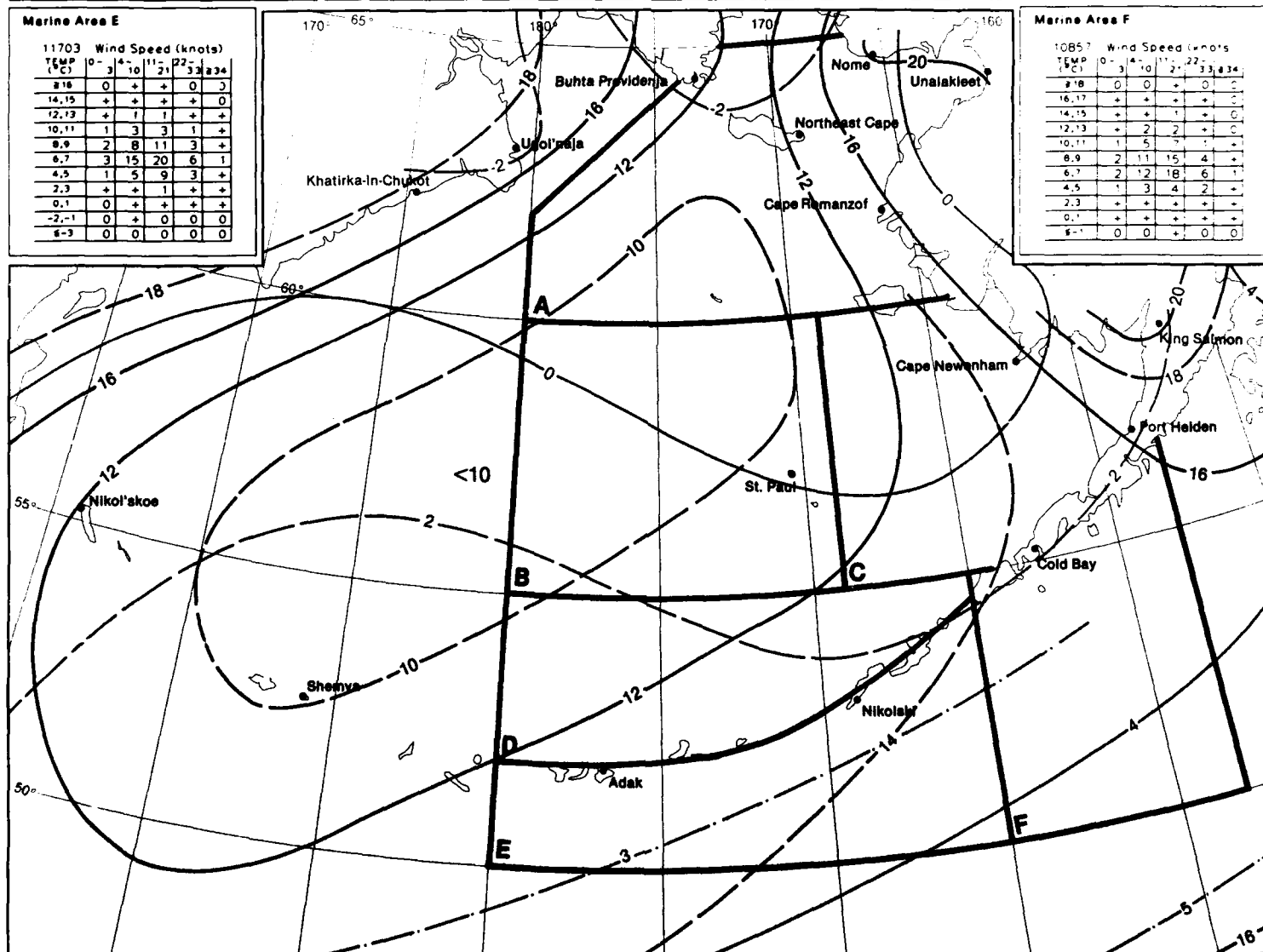
10871	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	23-34
216	+	+	0	0	0	0	0
14,15	+	+	+	+	+	0	0
12,13	+	1	1	+	+	0	0
10,11	1	3	3	+	+	+	+
8,9	2	7	8	2	+	+	+
6,7	3	15	19	5	+	+	+
4,5	2	8	11	3	+	+	+
2,3	+	1	1	1	+	+	+
0,1	0	+	+	+	+	+	+
-2,-1	+	+	+	+	+	0	0
-3	0	0	0	0	0	0	0

### Marine Area E

11703	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	23-34
218	0	+	+	0	0	0	0
14,15	+	+	+	+	+	0	0
12,13	+	1	1	+	+	+	+
10,11	1	3	3	1	+	+	+
8,9	2	8	11	3	+	+	+
6,7	3	15	20	6	1	+	+
4,5	1	5	9	3	+	+	+
2,3	+	+	1	+	+	+	+
0,1	0	+	+	+	+	+	+
-2,-1	0	+	0	0	0	0	0
-3	0	0	0	0	0	0	0

### Marine Area F

10857	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	23-34
218	0	0	+	0	0	0	0
14,15	+	+	+	+	+	0	0
12,13	+	2	2	+	+	0	0
10,11	1	5	+	+	+	+	+
8,9	2	11	15	4	+	+	+
6,7	2	12	18	6	1	+	+
4,5	1	3	4	2	+	+	+
2,3	+	+	+	+	+	+	+
0,1	+	+	+	+	+	+	+
-3	0	0	+	0	0	0	0



### Nikel'ske

5353		Wind Speed (knots)					
TEMP (°C)	0-	3	4-10	11-	22-	33	≥34
≥18	0	+	0	0	0	0	
16,17	+	+	0	0	0	0	
14,15	+	+	+	0	0	0	
12,13	1	3	1	+	0	0	
10,11	2	6	5	1	0	0	
8,9	5	14	17	3	+		
6,7	4	12	14	4	+		
4,5	1	2	3	1	0		
2,3	+	+	0	0	0		
0,1	+	0	0	0	0		
≤-1	0	0	0	0	0		

### Khatirka-In-Chukot

3221	Wind Speed (knots)						
TEMP (°C)	0-	3	4-10	11-21	22-33	≥34	
≥18	+	+	+	+	0	0	
16,17	+	+	1	+	0	0	
14,15	1	1	1	1	+	0	
12,13	2	2	2	2	+	+	
10,11	3	2	1	1	+	0	
8,9	11	8	4	+	+	+	
6,7	16	12	5	+	+	+	
4,5	10	7	4	+	0	0	
2,3	2	1	+	+	+	0	
0,1	+	+	0	+	0	0	
≤-1	0	+	0	0	0	0	

### Ugol'naja

4945	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	21-	33	≥34
≥18	+	1	1	+	+	0	
16,17	1	1	1	+	+	+	
14,15	1	2	2	+	+	0	
12,13	2	5	4	1	+	+	
10,11	2	5	3	1	+	+	
8,9	4	9	6	1	+	+	
6,7	4	9	8	2	+	+	
4,5	3	6	6	1	+	+	
2,3	1	2	2	+	+	+	
0,1	+	+	+	+	+	0	
≤-1	0	+	0	0	0	+	

### Buhta Providenja

4421	Wind Speed (knots)					
TEMP (°C)	0-	3	10	21	22-	33-34
≥18	+	+	+	0	0	0
16,17	+	+	+	0	0	0
14,15	1	2	1	0	0	0
12,13	2	5	1	+	+	0
10,11	3	6	1	0	0	0
8,9	8	14	3	0	0	0
6,7	10	16	3	0	0	0
4,5	6	9	2	+	0	0
2,3	2	2	1	0	0	0
0,1	+	0	+	0	0	0
≤-1	0	0	0	0	0	0

### Northeast Cape

10595	Wind Speed (knots)						
TEMP (°C)	0-	3	10	11-	22-	33	≥34
≥18	+	+	+	+	+	+	0
16,17	+	+	+	1	+	+	0
14,15	+		1	1	+	+	0
12,13	1	3	3	+	+	+	0
10,11	3	8	6	1	+	+	0
8,9	4	9	7	1	+	+	0
6,7	5	13	11	1	+	+	0
4,5	2	6	4	1	+	+	0
2,3	1	4	2	+	+	+	0
0,1	+	+	+	+	+	+	0
≤-1	0	0	0	0	0	0	0

**Nome**

TEMP (°C)	0-	3	4-10	11-21	22-	33	≥34
≥20	+	+	1	1	+	+	0
18,19	+	+	1	1	+	+	0
16,17	+	3	2	+	+	+	0
14,15	1	4	2	+	+	+	0
12,13	2	10	4	+	+	+	0
10,11	3	14	6	+	+	+	+
8,9	2	11	6	+	+	+	0
6,7	2	10	6	+	+	+	0
4,5	1	3	1	+	+	+	0
2,3	+	1	+	+	+	+	0
≤1	+	+	+	+	+	+	0

**Unelaklost**

15859	Wind Speed (knots)						
TEMP (°C)	0-	3	10	11-	21	33	≥34
≥22	+	+	+	+	0	0	0
20,21	+	+	1	1	+	+	0
18,19	+		2	1	+	+	0
16,17			1	6	2	+	0
14,15		2	9	3	+	0	0
12,13		4	15	7	+	+	0
10,11		3	14	8	1	0	0
8,9		1	5	3	+	+	0
6,7		1	3	2	+	0	0
4,5		+	1	+	+	0	0
≤3		+	+	+	0	0	0

### Cape Romanzof

18686	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	+	1	+	+	0	0	0
16,17	1	1	1	+	+	0	0
14,15	1	2	1	+	+	0	0
12,13	2	5	3	+	+	0	0
10,11	4	10	6	+	+	0	0
8,9	5	11	7	+	+	0	0
6,7	5	13	7	+	+	0	0
4,5	2	4	3	+	+	0	0
2,3	+	1	1	+	+	0	0
0,1	+	+	+	+	0	0	0
≤-1	0	0	0	0	0	0	0

### Cape Newenham

1939 TEMP (°C)	Wind Speed (knots)					
	0-3	4-10	11-21	22-33	≥34	
≥18	+	+	+	+	0	
16,17	1	1	+	+	0	
14,15	2	2	1	+	0	
12,13	4	5	3	+	0	
10,11	7	12	6	+	0	
8,9	7	13	8	+	+	
6,7	6	10	7	+	0	
4,5	1	2	1	+	0	
2,3	+	+	+	0	0	
0,1	0	0	+	0	0	
≤-1	0	0	0	0	0	

## King Salmon

18345		Wind Speed (knots)						
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
22	+	2	1	+	0			
20,21	+	2	1	+	0			
18,19	+	3	1	+	0			
16,17	1	5	3	+	0			
14,15	1	6	3	+	0			
12,13	2	11	5	+	0			
10,11	4	16	6	+	+			
8,9	3	10	3	+	+			
6,7	2	5	2	+	0			
4,5	+	1	+	0	0			
≤3	+	+	+	0	0			

## Port Heiden

5917		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥20	+	+	+	1	+	+	0
18,19	+	+	1	1	+	+	+
16,17	+	+	2	2	+	+	+
14,15	+	+	3	2	1	+	+
12,13	2	7	5	1	+	+	+
10,11	3	14	7	1	+	+	+
8,9	3	11	8	1	+	+	+
6,7	3	9	6	+	+	+	0
4,5	2	2	+	0	0	0	0
2,3	+	+	+	0	0	0	0
≤1	+	+	+	0	0	0	0

### Cold Bay

TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥18	0	+	+	+	+	0		
16, 17	+	+	+	1	+	0		
14, 15	+	1	1	1	+	0		
12, 13	+	3	6	1	+	+		
10, 11	1	10	16	5	+	+		
8, 9	1	9	15	4	+	+		
6, 7	1	7	11	2	+	+		
4, 5	+	1	1	+	+	0		
2, 3	+	+	+	0	0	0		
0, 1	0	+	0	0	0	0		
≤-1	0	0	0	0	0	0		

**Nikolski**

2484	Wind Speed (knots)						
TEMP (°C)	0-	3	10	11-	22-	33	≥34
≥16	C	0	0	0	0	0	0
14,15	+	+	+	+	0	0	0
12,13	+	1	1	0	0	0	0
10,11	1	4	4	+	+	0	0
8,9	1	9	6	1	0	0	0
6,7	2	23	19	2	+	+	0
4,5	1	8	10	2	0	0	0
2,3	+	1	1	+	0	0	0
0,1	0	+	0	0	0	0	0
-2,-1	0	0	0	0	0	0	0
≤-3	0	0	0	0	0	0	0

**St. Paul**

10306	Wind Speed (knots)						
TEMP (°C)	0-	3	4-10	11-21	22-33	≥34	
≥16	+	+	+	+	0	0	
14,15	0	+	+	0	0	0	
12,13	+	1	+	+	0	0	
10,11	+	+	3	4	+	0	
8,9	1	10	13	1	0	0	
6,7	2	24	24	1	0	0	
4,5	1	7	5	+	+	0	
2,3	+	2	1	+	0	0	
0,1	+	+	+	0	0	0	
-2,-1	+	+	0	0	0	0	
≤-3	0	0	0	0	0	0	

**Adak**

22239	Wind Speed (knots)						
TEMP (°C)	0-	3	10	11-21	22-	33	≥34
≥18	+	+	+	+	+	+	0
16,17	+	+	+	+	+	+	+
14,15	+	1	1	1	+	+	+
12,13	1	4	4	1	+	+	+
10,11	3	11	9	1	+	+	+
8,9	4	14	10	1	+	+	+
6,7	6	14	9	1	+	+	+
4,5	1	2	1	+	+	+	0
2,3	+	+	+	+	+	+	0
0,1	+	+	0	0	0	0	0
≤-1	0	0	0	0	0	0	0

## Shemya

18976	Wind Speed (knots)					
TEMP (°C)	0-	3	10	11-	22-	33-34
±16	0	0	0	0	0	0
14,15	+	+	+	+	0	0
12,13	+	+	+	+	+	0
10,11	1	4	4	+	+	+
8,9	3	13	13	2	+	+
6,7	6	20	23	2	+	+
4,5	1	3	3	+	+	0
2,3	+	+	+	+	0	0
0,1	0	0	0	0	0	0
-2,-1	0	0	0	0	0	0
-3	0	0	0	0	0	0

### Marine Area A

4770	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	≥34	
≥18	+	+	+	+	+	0
16,17	+	1	1	0	0	0
14,15	+	1	1	+	+	
12,13	1	2	2	+	+	
10,11	2	5	6	1	+	
8,9	2	10	11	2	+	
6,7	3	12	16	2	+	
4,5	1	5	6	1	+	
2,3	+	1	1	+	+	
0,1	+	+	+	+	0	
≤-1	+	0	+	0	0	

### Marine Area B

6134	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	≥34	
≥18	0	0	0	0	0	0
16,17	0	0	+	0	0	0
14,15	+	+	+	0	0	0
12,13	+	1	1	+	0	0
10,11	1	4	4	+	+	+
8,9	3	13	16	3	+	+
6,7	3	16	20	4	+	+
4,5	1	4	4	+	+	+
2,3	+	+	+	+	0	0
0,1	+	+	+	0	0	0
≤-1	0	0	0	0	0	0

### Marine Area C

10077	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	≥34	
≥18	+	+	+	0	0	0
16,17	+	+	+	+	0	0
14,15	1	1	+	+	0	0
12,13	2	3	1	+	0	0
10,11	3	9	8	1	+	+
8,9	3	13	14	3	+	+
6,7	2	11	12	2	1	1
4,5	1	2	3	1	+	+
2,3	+	+	+	0	0	0
0,1	+	+	+	0	0	0
≤-1	+	+	0	0	0	0

### Marine Area D

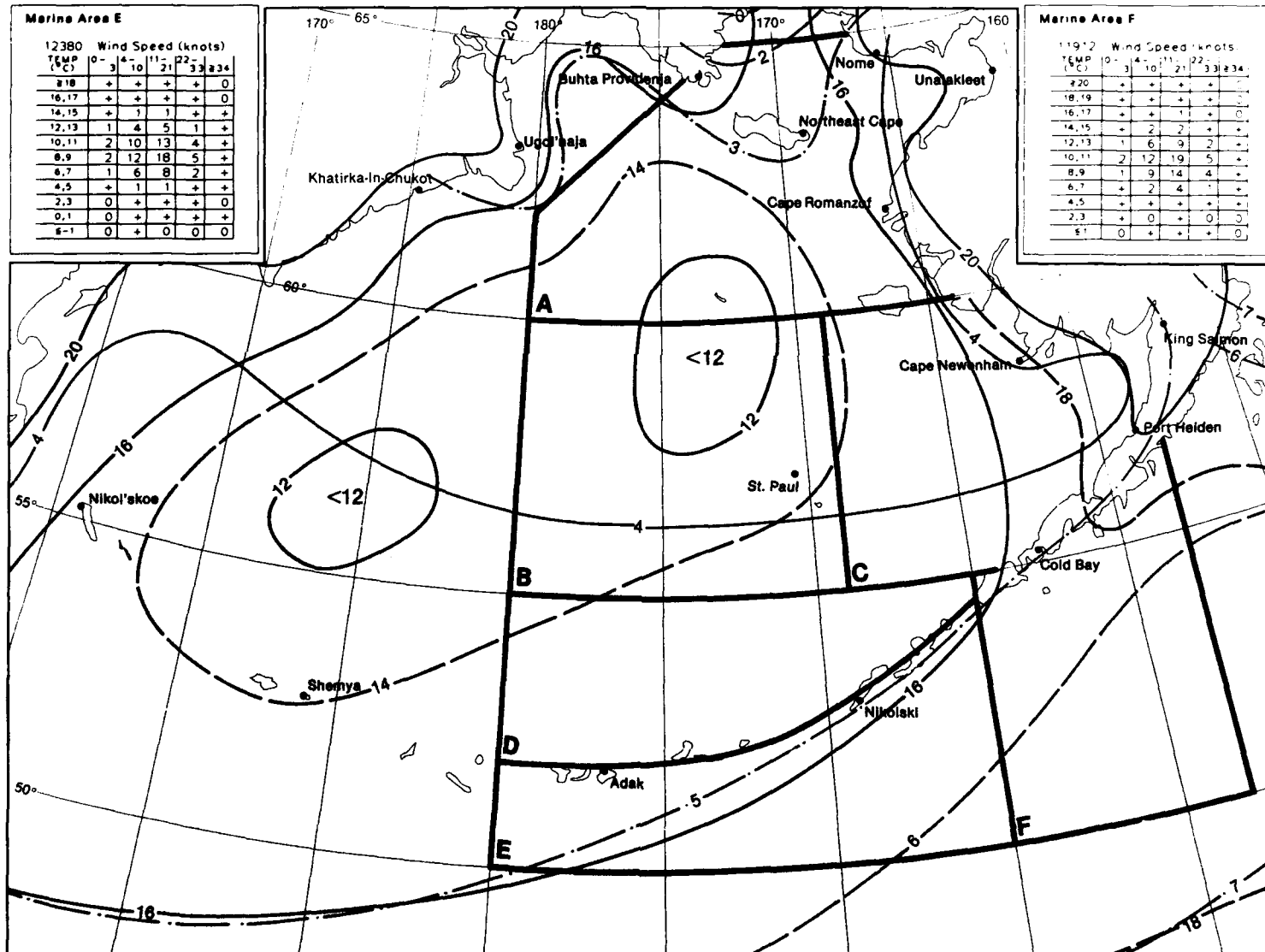
9609	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	≥34	
≥18	+	+	+	+	+	0
16,17	+	+	+	+	+	+
14,15	+	1	1	+	+	+
12,13	1	2	2	+	+	+
10,11	2	7	9	2	+	+
8,9	3	13	18	4	+	+
6,7	2	9	13	3	+	+
4,5	+	1	1	+	+	+
2,3	+	+	+	+	+	+
0,1	+	+	+	+	0	0
≤-1	0	+	0	0	0	0

### Marine Area E

12380	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	≥34	
≥18	+	+	+	+	+	0
16,17	+	+	+	+	+	0
14,15	+	1	1	+	+	0
12,13	1	4	5	1	+	+
10,11	2	10	13	4	+	+
8,9	2	12	18	5	+	+
6,7	1	6	8	2	+	+
4,5	+	1	1	+	+	+
2,3	0	+	+	+	0	0
0,1	0	+	+	+	0	0
≤-1	0	+	0	0	0	0

### Marine Area F

11912	Wind Speed (knots)					
TEMP (°C)	0-3	4-10	11-21	22-33	≥34	
≥20	+	+	+	+	+	+
18,19	+	+	+	+	+	+
16,17	+	+	+	+	+	0
14,15	+	2	2	+	+	+
12,13	1	6	9	2	+	+
10,11	2	12	19	5	+	+
8,9	1	9	14	4	+	+
6,7	+	2	4	1	+	+
4,5	+	+	+	+	0	0
2,3	+	0	+	0	0	0
≤-1	0	+	+	+	0	0



7 Air Temperature Extremes

July

## Nikol'skoe

5308	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	0	0	0	0	0
18,19	+	+	+	+	0	+
16,17	+	+	+	+	0	0
14,15	+	+	+	+	0	0
12,13	4	10	7	+	+	+
10,11	4	14	13	2	+	+
8,9	6	13	14	4	1	+
6,7	1	2	1	1	+	+
4,5	+	+	+	+	0	0
2,3	0	0	0	0	0	0
≤-1	0	0	0	0	0	0

## Khatirka-In-Chukot

3285	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	+	+	+	+	0
16,17	+	1	+	+	+	0
14,15	1	1	1	+	+	0
12,13	2	3	2	+	+	0
10,11	3	3	2	+	+	+
8,9	15	11	5	1	+	+
6,7	17	12	6	1	+	+
4,5	5	3	1	+	+	+
2,3	1	1	+	+	+	0
0,1	+	0	0	+	0	0
≤-1	0	0	0	0	0	0

## Ugol'naja

4852	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	+	+	+	+	0
16,17	+	1	+	+	+	+
14,15	1	1	1	+	+	+
12,13	1	3	2	1	+	+
10,11	2	4	3	1	+	+
8,9	4	10	9	2	+	+
6,7	5	11	12	4	+	+
4,5	3	5	5	3	1	+
2,3	1	1	1	1	+	+
0,1	+	+	+	0	+	+
≤-1	0	+	+	+	0	0

## Buhta Providenja

4490	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	+	+	+	0	0
16,17	+	+	+	+	+	0
14,15	+	1	+	+	0	0
12,13	2	4	1	0	0	0
10,11	3	7	2	+	0	0
8,9	8	15	4	+	+	0
6,7	11	15	4	+	+	0
4,5	7	7	2	+	+	+
2,3	3	2	+	+	+	0
0,1	+	+	0	0	0	0
≤-1	+	0	0	0	0	0

## Northeast Cape

10869	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	+	+	0	0	0
16,17	+	+	+	+	+	+
14,15	+	+	+	+	+	0
12,13	+	2	2	+	+	+
10,11	2	8	7	1	+	+
8,9	4	13	11	1	+	+
6,7	4	14	11	2	+	+
4,5	2	4	5	1	0	0
2,3	1	1	1	+	+	+
0,1	+	+	+	0	0	0
≤-1	0	0	0	0	0	0

## Nome

21802	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	+	+	0	0	0
18,19	+	+	+	0	0	0
16,17	+	1	1	+	0	0
14,15	+	3	2	+	0	0
12,13	1	8	5	+	0	0
10,11	2	15	10	1	+	+
8,9	2	12	8	1	+	+
6,7	2	8	5	1	+	+
4,5	1	2	1	+	0	0
2,3	1	2	+	+	0	0
≤-1	+	1	+	0	0	0

## Unalakleet

15786	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	1	1	+	0	0
18,19	+	1	1	+	0	0
16,17	1	4	2	+	0	0
14,15	1	6	3	+	0	0
12,13	3	13	7	+	0	0
10,11	4	16	11	1	+	+
8,9	2	7	4	+	0	0
6,7	1	4	2	+	0	0
4,5	+	1	+	+	0	0
2,3	+	1	+	0	0	0
≤-1	+	1	+	0	0	0

## Cape Romanzof

18764	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	1	+	+	0	0
16,17	+	1	+	+	0	0
14,15	1	2	1	+	+	+
12,13	2	6	3	+	0	0
10,11	4	11	8	+	+	+
8,9	4	13	10	1	+	+
6,7	5	12	8	1	+	+
4,5	1	2	1	+	+	+
2,3	+	1	+	+	+	0
0,1	+	+	+	+	+	0
≤-1	0	0	0	0	0	0

## Cape Newenham

20043	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	+	+	0	0	0
18,19	+	+	+	+	0	0
16,17	+	+	+	+	0	0
14,15	1	1	1	+	0	0
12,13	3	6	5	1	0	0
10,11	8	17	11	1	+	+
8,9	6	16	10	1	+	+
6,7	3	5	4	+	0	0
4,5	+	+	+	+	0	0
2,3	0	+	+	0	0	0
≤-1	0	0	0	0	0	0

## King Salmon

18824	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
22	+	1	+	+	0	0
20,21	+	1	1	+	0	0
18,19	+	2	1	+	0	0
16,17	+	4	3	+	+	+
14,15	1	6	4	1	+	+
12,13	2	13	7	1	+	+
10,11	4	16	7	+	+	+
8,9	2	8	3	+	0	0
6,7	2	4	1	+	0	0
4,5	1	1	+	0	+	+
≤-1	1	1	+	0	0	0

## Port Heiden

5631	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	+	+	+	0	0
18,19	+	1	1	+	0	0
16,17	+	2	2	1	0	0
14,15	1	3	3	1	0	0
12,13	2	9	8	1	+	+
10,11	4	16	12	1	+	+
8,9	4	10	8	1	+	+
6,7	2	3	1	+	0	0
4,5	1	1	+	0	0	0
2,3	+	+	0	0	0	0
≤-1	+	+	0	0	0	0

## Cold Bay

14377	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	+	+	+	0	0
18,19	+	+	+	+	0	0
16,17	+	+	1	+	0	0
14,15	+	1	2	1	+	+
12,13	+	4	8	4	+	+
10,11	1	12	22	7	+	+
8,9	1	8	14	2	+	+
6,7	1	4	4	+	0	0
4,5	+	+	+	0	0	0
2,3	+	+	0	0	0	0
≤-1	0	0	0	0	0	0

## Nikolski

2464	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	0	0	0	0	0
14,15	0	+	0	0	0	0
12,13	+	1	1	+	0	0
10,11	1	5	6	1	0	0
8,9	2	11	10	2	+	+
6,7	4	22	21	4	+	+
4,5	1	4	4	1	+	+
2,3	+	+	+	0	0	0
0,1	0	0	0	0	0	0
-2,-1	0	0	0	0	0	0
≤-3	0	0	0	0	0	0

## St. Paul

11089	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	0	0	0	0	0
16,17	0	+	+	0	0	0
14,15	+	+	+	+	0	0
12,13	0	+	1	+	0	0
10,11	+	5	10	1	+	+
8,9	1	17	26	3	+	+
6,7	1	14	14	2	+	+
4,5	+	1	1	+	0	0
2,3	+	+	+	0	0	0
0,1	+	+	0	0	0	0
≤-1	+	+	0	0	0	0

## Adak

22299	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	+	+	+	+	+	+
18,19	+	+	+	+	+	+
16,17	+	1	1	+	+	+
14,15	1	2	2	1	+	+
12,13	2	7	8	2	+	+
10,11	5	14	14	2	+	+
8,9	4	11	10	2	+	+
6,7	2	5	3	+	+	+
4,5	+	+	+	+	0	0
2,3	+	+	0	0	0	0
≤-1	+	+	+	0	0	0

## Shemya

18894	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
20	0	0	0	0	0	0
16,17	0	0	0	0	0	0
14,15	+	+	+	0	0	0
12,13	+	2	2	+	0	0
10,11	2	13	14	2	+	+
8,9	5	19	25	4	+	+
6,7	2	5	4	+	+	+
4,5	+	+	0	0	0	0
2,3	0	0	0	0	0	0
0,1	0	0	0	0	0	0
≤-1	0	0	0	0	0	0

August

7 Air Temperature and Wind Speed

**Marine Area A**

4677 Wind Speed (knots)								
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥18	+	+	+	+	0	0		
16,17	+	+	1	+	0	0		
14,15	+	+	1	+	+	0		
12,13	1	3	2	+	+			
10,11	1	6	8	1	+			
8,9	2	12	17	4	+			
6,7	3	13	13	3	+			
4,5	+	2	2	1	+			
2,3	+	+	+	+	0			
0,1	+	+	+	0	0			
≤-1	0	0	0	+	0			

**Marine Area B**

3683 Wind Speed (knots)								
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥18	0	0	0	0	0	0		
16,17	0	+	+	+	+	0		
14,15	+	+	+	+	+	0		
12,13	+	1	2	+	0			
10,11	1	7	13	3	+			
8,9	2	12	29	9	1			
6,7	1	5	7	3	+			
4,5	+	+	+	+	0			
2,3	0	+	+	0	0			
0,1	0	0	0	0	0			
≤-1	0	0	0	0	0			

**Marine Area C**

8537 Wind Speed (knots)								
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥20	+	+	+	+	0	+		
18,19	+	+	+	+	0	0		
16,17	+	+	+	+	+	0		
14,15	+	1	1	+	+			
12,13	1	4	3	1	+			
10,11	2	12	17	5	+			
8,9	2	14	22	6	+			
6,7	+	2	4	1	+			
4,5	+	+	+	+	0			
2,3	0	+	+	0	0			
≤-1	0	0	0	0	0			

**Marine Area D**

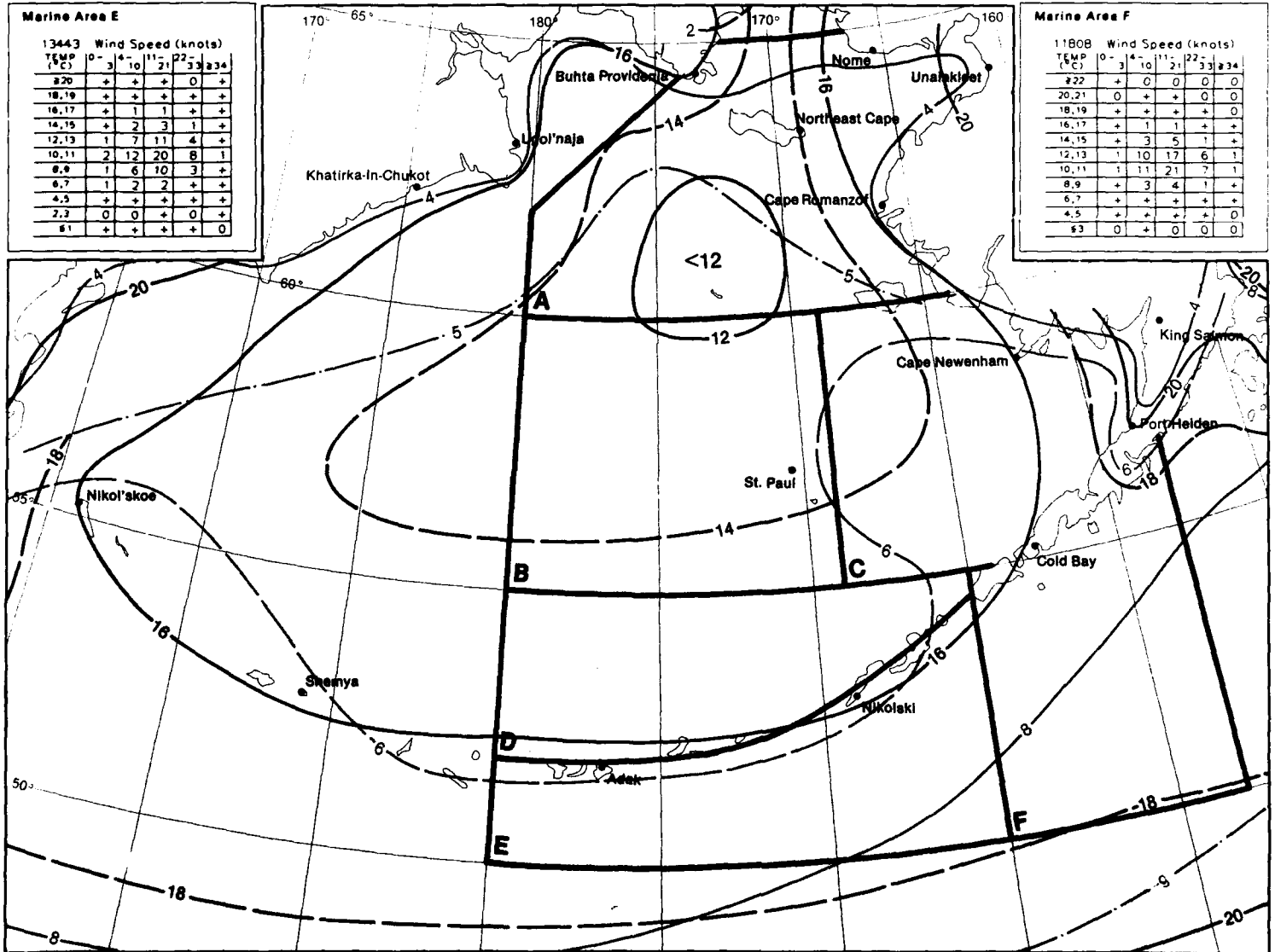
9657 Wind Speed (knots)								
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥20	+	+	+	0	+	0		
16,17	+	+	+	+	0	0		
14,15	+	+	+	+	+	0		
12,13	1	4	5	1	+			
10,11	3	11	15	5	+			
8,9	3	12	19	6	+			
6,7	1	3	4	1	+			
4,5	+	+	+	+	+	0		
2,3	+	+	+	+	0	0		
≤-1	+	+	+	+	0	0		

**Marine Area E**

13443 Wind Speed (knots)								
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥20	+	+	+	+	0	+		
18,19	+	+	+	+	+	0		
16,17	+	1	1	+	+			
14,15	+	2	3	1	+			
12,13	1	7	11	4	+			
10,11	2	12	20	8	1			
8,9	1	6	10	3	+			
6,7	1	2	2	+	+			
4,5	+	+	+	+	+	0		
2,3	0	0	+	0	+	0		
≤-1	+	+	+	+	0	0		

**Marine Area F**

11808 Wind Speed (knots)								
TEMP (°C)	0-	3	4-	10	11-	22-	33	≥34
≥22	+	0	0	0	0	0		
20,21	0	+	+	+	0	0		
18,19	+	+	+	+	+	0		
16,17	+	1	1	+	+	0		
14,15	+	3	5	1	+			
12,13	1	10	17	6	1			
10,11	1	11	21	7	1			
8,9	+	3	4	1	+			
6,7	+	+	+	+	+	0		
4,5	+	+	+	+	+	0		
≤3	0	+	0	0	0	0		



7 Air Temperature Extremes

August

## Nikol'skoe

5265		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	0	0	0	0	0	0	0
16,17	0	+	+	+	0	0	0
14,15	0	+	0	0	0	0	0
12,13	+	3	2	1	+		
10,11	2	8	11	3	+		
8,9	5	15	17	4	1		
6,7	4	7	6	3	+		
4,5	2	2	2	1	+		
2,3	+	+	+	+	0	0	
0,1	+	+	+	0	0	0	
≤-1	+	+	0	0	0	+	

## Khatirke-In-Chukot

3160		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥14	+	+	+	0	0		
12,13	+	1	+	+	0		
10,11	1	1	1	+	0		
8,9	5	4	2	+	0		
6,7	13	10	7	1	+		
4,5	9	7	6	2	+		
2,3	6	5	5	2	+		
0,1	2	1	1	1	+		
-2,-1	1	1	1	+	+		
-4,-3	+	1	+	+	+		
≤-5	+	+	+	+	0		

## Ugol'nae

4796		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥14	+	+	+	0	+		
12,13	+	1	+	+	0		
10,11	+	1	1	+	+		
8,9	1	2	3	1	+		
6,7	4	7	7	2	+		
4,5	4	7	10	3	1		
2,3	4	7	9	4	2		
0,1	1	2	3	2	1		
-2,-1	1	1	2	2	1		
-4,-3	+	1	1	1	+		
≤-5	+	+	1	+	+		

## Buhta Provideniya

4314		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥14	0	0	0	0	0	0	0
12,13	+	+	+	+	0	0	0
10,11	+	2	+	+	+	0	0
8,9	2	4	2	+	0		
6,7	5	11	4	+	0		
4,5	9	13	5	+	0		
2,3	9	11	5	+	0		
0,1	4	3	2	+	0		
-2,-1	3	2	1	+	0		
-4,-3	1	1	+	+	0		
≤-5	+	+	+	+	0	0	

## Northeast Cape

10867		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥14	0	0	0	0	0	0	0
12,13	+	+	+	+	+	0	0
10,11	+	1	1	+	+		
8,9	1	4	4	1	+		
6,7	4	11	15	2	+		
4,5	3	8	11	1	+		
2,3	3	7	11	2	+		
0,1	1	3	4	1	+		
-2,-1	+	+	1	+	0		
-4,-3	+	+	+	+	0		
≤-5	0	+	0	0	0	0	

## Nome

21073		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	0	+	+	+	0		
14,15	+	+	+	+	0		
12,13	+	2	2	+	0		
10,11	1	6	4	+	0		
8,9	1	8	7	1	+		
6,7	2	12	11	1	+		
4,5	1	7	4	+	+		
2,3	2	6	4	+	+		
0,1	2	5	3	+	+		
-2,-1	1	2	1	+	0		
≤-3	1	2	+	+	0		

## Unalakleet

15343		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	+	1	1	+	0		
14,15	+	1	1	+	0		
12,13	+	3	3	+	0		
10,11	1	7	6	+	0		
8,9	2	8	7	+	+		
6,7	2	12	9	1	+		
4,5	2	6	4	1	0		
2,3	1	5	3	+	+		
0,1	1	4	2	+	+		
-2,-1	1	2	1	+	0		
≤-3	1	2	+	+	0		

## Cape Romanzof

18176		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	+	+	+	+	0	0	0
14,15	+	+	+	+	0	0	0
12,13	+	1	1	+	0		
10,11	2	5	3	+	+		
8,9	2	7	7	1	+		
6,7	3	13	13	2	+		
4,5	2	8	7	1	+		
2,3	2	5	5	1	+		
0,1	1	2	2	1	+		
-2,-1	+	+	1	+	+		
≤-3	+	+	+	+	+	0	

## Cape Newenham

19728		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	0	0	+	0	0	0	0
16,17	+	+	+	+	0	0	0
14,15	+	+	+	+	0	0	0
12,13	1	1	1	+	0		
10,11	4	9	6	1	+		
8,9	5	15	10	1	+		
6,7	4	13	11	1	+		
4,5	1	4	3	+	0		
2,3	1	2	2	+	0		
0,1	+	1	+	+	0		
≤-1	+	+	+	0	0	0	

## King Salmon

18211		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	+	+	+	+	0		
16,17	+	1	1	+	0		
14,15	+	2	2	+	+		
12,13	1	6	5	1	+		
10,11	2	11	8	1	+		
8,9	2	10	5	+	+		
6,7	3	12	4	+	+		
4,5	2	5	1	+	0		
2,3	1	4	1	+	0		
0,1	1	3	1	+	0		
≤-1	1	2	+	+	0		

## Port Heiden

6205		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	0	0	+	+	+	0	0
16,17	+	+	+	+	+		
14,15	+	1	1	+	+		
12,13	1	4	4	1	+		
10,11	2	8	10	2	0		
8,9	2	12	12	2	+		
6,7	2	10	8	1	0		
4,5	1	5	2	+	0		
2,3	1	3	1	+	0		
0,1	+	2	+	0	0		
≤-1	+	+	+	0	0	0	

## Cold Bay

13918		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	0	+	+	+	+	0	0
16,17	0	0	+	+	+	0	0
14,15	+	+	+	+	+	0	0
12,13	+	2	3	1	+		
10,11	1	7	14	4	+		
8,9	1	8	15	4	+		
6,7	1	9	14	3	+		
4,5	1	3	3	+	+		
2,3	+	2	1	+	0		
0,1	+	+	+	+	0	0	
≤-1	+	+	0	0	0	0	

## Nikolski

2356		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	0	0	0	0	0	0	0
14,15	0	0	0	0	0	0	0
12,13	+	+	+	0	0	0	0
10,11	+	2	2	+	0		
8,9	1	8	8	1	0		
6,7	4	21	22	3	+		
4,5	1	7	10	4	+		
2,3	+	1	2	1	+		
0,1	0	0	+	+	0	0	
-2,-1	0	0	0	0	0	0	
≤-3	0	0	0	0	0	0	

## St. Paul

10316		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	0	0	0	0	0	0	0
14,15	0	+	+	+	0	0	0
12,13	0	+	+	+	0		
10,11	+	1	3	1	0		
8,9	+	8	18	3	+		
6,7	1	14	22	5	+		
4,5	1	5	5	2	+		
2,3	+	3	2	1	+		
0,1	+	2	+	+	0	0	
-2,-1	+	+	+	0	0	0	
≤-3	+	+	0	0	0	0	

## Adak

21540		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	0	+	+	+	+	0	0
16,17	+	+	+	+	+		
14,15	+	+	+	+	+		
12,13	+	2	3	1	+		
10,11	2	11	11	2	+		
8,9	3	14	14	3	+		
6,7	5	11	9	2	+		
4,5	1	1	1	+	+		
2,3	1	+	+	+	+	0	
0,1	+	+	0	0	0	0	
≤-1	+	0	0	0	0	0	

## Shemya

18865		Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥18	0	0	0	0	0	0	0
16,17	0	0	0	0	0	0	0

**Marine Area A**

3705	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	+	+	+	0	0	0	0
14,15	+	+	+	+	+	+	0
12,13	+	1	1	1	+	+	0
10,11	1	3	3	1	+	+	+
8,9	1	5	10	3	+	+	+
6,7	2	10	16	4	1	+	+
4,5	2	7	10	4	+	+	+
2,3	1	3	5	2	+	+	+
0,1	+	1	1	1	+	+	+
-2,-1	0	+	+	+	+	+	+
≤-3	+	0	0	0	0	+	+

**Marine Area B**

2800	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	0	0	0	0	0	0	0
14,15	0	0	+	0	0	0	0
12,13	+	+	+	+	+	+	+
10,11	1	3	5	2	+	+	+
8,9	2	8	18	7	1	+	+
6,7	2	9	17	7	2	+	+
4,5	1	3	5	3	1	+	+
2,3	+	1	1	1	1	+	+
0,1	+	+	+	+	+	0	0
-2,-1	0	0	0	+	0	0	0
≤-3	0	0	0	0	0	0	0

**Marine Area C**

9055	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	0	+	+	0	0	0	0
16,17	+	+	+	0	0	0	0
14,15	+	+	+	+	+	+	+
12,13	+	1	1	+	+	+	+
10,11	1	6	8	3	+	+	+
8,9	1	11	23	10	+	+	+
6,7	1	6	13	6	+	+	+
4,5	+	+	2	1	+	+	+
2,3	+	+	+	+	+	+	+
0,1	0	+	+	+	+	0	0
≤-1	0	0	0	0	0	0	0

**Marine Area D**

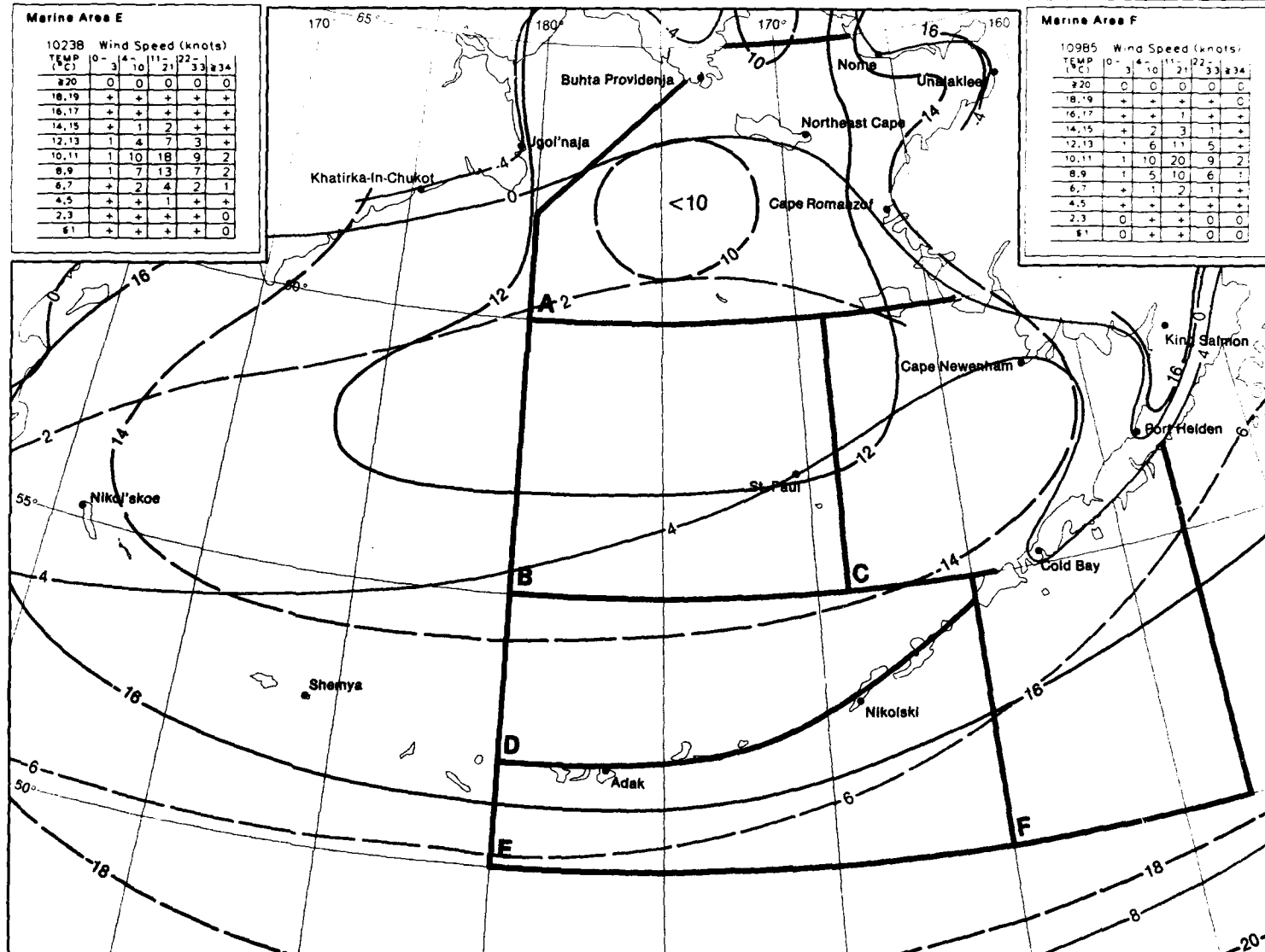
8731	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥16	+	+	+	+	+	0	0
16,17	+	+	+	+	+	0	0
14,15	+	+	+	1	+	+	+
12,13	1	3	3	1	+	+	+
10,11	2	7	11	4	1	+	+
8,9	2	10	18	9	2	+	+
6,7	1	6	10	5	1	+	+
4,5	+	1	1	+	+	+	+
2,3	+	+	+	+	+	+	+
0,1	+	+	+	+	+	+	+
≤-1	0	0	0	0	0	0	0

**Marine Area E**

10238	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥20	0	0	0	0	0	0	0
18,19	+	+	+	+	+	+	+
16,17	+	+	+	+	+	+	+
14,15	+	1	2	+	+	+	+
12,13	1	4	7	3	+	+	+
10,11	1	10	18	9	2	+	+
8,9	1	7	13	7	2	+	+
6,7	+	2	4	2	1	+	+
4,5	+	+	1	+	+	+	+
2,3	+	+	+	+	+	0	0
≤1	+	+	+	+	+	0	0

**Marine Area F**

10985	Wind Speed (knots)						
TEMP (°C)	0-	3	4-	11-	22-	33	≥34
≥20	0	0	0	0	0	0	0
18,19	+	+	+	+	+	+	+
16,17	+	+	+	+	+	+	+
14,15	+	2	3	1	+	+	+
12,13	1	6	11	5	+	+	+
10,11	1	10	20	9	2	+	+
8,9	1	5	10	6	1	+	+
6,7	+	1	2	1	+	+	+
4,5	+	+	+	+	+	+	+
2,3	0	+	+	+	+	0	0
≤1	0	+	+	+	+	0	0



7 Air Temperature Extremes

September



## Nikol'skoe

5517	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.4	0	0	0	0	0	0
12,13	0	0	0	0	0	0
10,11	+	+	+	1	+	0
8,9	+	2	3	1	+	+
6,7	2	6	10	5	1	+
4,5	3	9	10	4	1	+
2,3	5	9	9	4	1	+
0,1	1	2	3	1	+	+
-2,-1	1	1	1	1	+	+
-4,-3	+	+	+	+	+	+
-5	0	0	+	0	0	0

## Khatirka-In-Chukot

3497	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
26	+	+	1	+	0	+
4,5	2	2	2	1	+	+
2,3	3	3	4	2	+	+
0,1	3	3	3	1	+	+
-2,-1	3	4	5	2	+	+
-4,-3	3	3	5	2	+	+
-6,-5	2	3	5	2	+	+
-8,-7	1	3	5	3	1	+
-10,-9	1	1	2	1	+	+
-12,-11	1	1	2	1	+	+
-13	1	1	2	1	+	+

## Ugol'neja

5114	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
26	+	+	+	+	+	+
4,5	+	1	2	1	+	+
2,3	1	3	3	2	1	+
0,1	2	2	3	2	1	+
-2,-1	1	3	5	4	3	+
-4,-3	1	2	5	4	2	+
-6,-5	2	2	3	4	2	+
-8,-7	2	2	3	3	2	+
-10,-9	1	1	1	2	1	+
-12,-11	1	1	2	2	1	+
-13	1	2	2	2	2	+

## Buhta Providenja

4540	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
26	0	+	+	+	0	0
4,5	+	2	1	0	0	0
2,3	2	6	4	1	0	0
0,1	3	7	3	1	+	+
-2,-1	5	8	6	1	+	+
-4,-3	5	8	5	1	+	+
-6,-5	4	6	4	1	+	+
-8,-7	4	3	1	+	0	0
-10,-9	1	1	+	+	0	0
-12,-11	2	1	1	+	0	0
-13	1	+	+	+	0	0

## Northeast Cape

11066	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
28	0	+	+	+	+	0
6,7	+	1	2	+	+	+
4,5	+	2	4	1	+	+
2,3	1	3	8	2	+	+
0,1	1	6	16	5	+	+
-2,-1	2	6	11	3	+	+
-4,-3	1	5	9	2	+	+
-6,-5	1	2	3	+	+	+
-8,-7	+	1	2	+	+	+
-10,-9	+	+	+	+	0	0
-11	+	+	+	0	0	0

## Nome

21813	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
28	+	+	+	+	+	0
6,7	+	1	1	+	+	+
4,5	+	3	3	1	+	+
2,3	1	5	6	1	+	+
0,1	2	9	8	1	+	+
-2,-1	2	7	4	1	+	+
-4,-3	2	8	5	1	+	+
-6,-5	1	5	2	+	+	+
-8,-7	2	5	2	+	+	+
-10,-9	1	3	1	+	0	0
-11	2	3	+	+	0	0

## Unalakleet

15772	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
26	+	2	3	+	0	0
4,5	+	2	2	+	+	+
2,3	1	4	5	1	+	+
0,1	2	7	7	1	+	+
-2,-1	2	6	4	1	0	0
-4,-3	2	6	5	1	+	+
-6,-5	1	4	3	1	+	+
-8,-7	2	4	4	1	+	+
-10,-9	1	3	2	+	+	+
-12,-11	+	2	1	+	+	+
-13	1	3	1	+	0	0

## Cape Romanzof

18620	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
28	+	+	+	+	+	0
6,7	+	2	1	+	0	0
4,5	1	3	3	+	+	+
2,3	2	6	6	1	+	+
0,1	3	7	10	2	+	+
-2,-1	3	6	8	2	+	+
-4,-3	2	5	7	2	+	+
-6,-5	2	3	4	1	+	+
-8,-7	1	1	2	1	+	+
-10,-9	+	+	+	+	+	+
-11	+	+	+	+	+	+

## Cape Newenham

20493	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.2	0	+	+	+	+	0
10,11	+	+	+	+	+	0
8,9	1	1	2	+	+	+
6,7	1	5	5	+	+	+
4,5	2	7	6	1	+	+
2,3	3	9	9	1	+	+
0,1	3	8	7	1	+	+
-2,-1	1	4	4	1	+	+
-4,-3	1	3	4	1	+	+
-6,-5	1	1	2	+	+	+
-7	+	1	1	+	+	+

## King Salmon

18846	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.0	+	1	2	+	+	+
8,9	+	2	2	1	+	+
6,7	1	5	5	1	+	+
4,5	1	6	4	1	+	+
2,3	2	8	4	+	+	+
0,1	2	10	4	+	0	0
-2,-1	2	5	2	+	0	0
-4,-3	2	5	2	+	0	0
-6,-5	1	3	1	+	+	+
-8,-7	1	3	1	+	+	0
-9	2	4	1	+	0	0

## Port Heiden

6048	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.2	+	+	+	+	+	0
10,11	+	1	2	+	0	0
8,9	+	2	4	1	+	+
6,7	1	6	8	2	+	+
4,5	1	7	9	1	+	+
2,3	1	7	8	1	0	0
0,1	1	8	6	+	+	+
-2,-1	1	5	2	+	0	0
-4,-3	1	3	2	+	0	0
-6,-5	+	2	1	+	0	0
-7	+	2	1	+	0	0

## Cold Bay

14379	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.4	0	0	+	+	+	+
12,13	+	+	+	+	+	+
10,11	+	1	1	1	+	+
8,9	+	1	4	2	+	+
6,7	+	5	12	5	+	+
4,5	1	5	10	3	+	+
2,3	1	8	12	4	+	+
0,1	1	7	7	2	+	+
-2,-1	+	2	1	1	+	+
-4,-3	+	1	+	+	+	+
-5	+	+	+	+	0	0

## Nikolski

2428	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.2	0	0	0	0	0	0
10,11	0	0	+	0	0	0
8,9	0	+	1	+	0	0
6,7	+	4	7	2	+	+
4,5	2	9	14	6	+	+
2,3	1	7	14	7	1	+
0,1	1	4	8	5	1	+
-2,-1	+	1	1	1	+	+
-4,-3	0	0	+	+	0	0
-6,-5	0	0	0	0	0	0
-7	0	0	0	0	0	0

## St. Paul

11311	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.2	0	0	0	0	0	0
10,11	0	+	+	0	0	0
8,9	+	+	1	+	+	+
6,7	+	3	11	4	+	+
4,5	+	4	12	5	+	+
2,3	1	6	13	5	1	+
0,1	1	7	10	4	1	+
-2,-1	+	2	2	1	+	+
-4,-3	+	1	1	+	0	0
-6,-5	+	+	+	0	0	0
-7	+	+	0	0	0	0

## Adak

22296	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.6	0	0	0	+	+	0
14,15	0	0	0	+	+	+
12,13	0	+	+	+	+	+
10,11	+	2	1	+	+	+
8,9	1	4	6	2	+	+
6,7	3	12	16	5	1	+
4,5	3	9	10	3	+	+
2,3	3	6	5	1	+	+
0,1	2	1	1	+	0	0
-2,-1	+	+	+	0	0	0
-3	+	0	0	0	0	0

## Shemya

19529	Wind Speed (knots)					
TEMP (°C)	0-	3	4-	11-	22-	33-34
21.4	0	0	0	0	0	0
12,13	0	0	+	0	0	0
10,11	+	+	+	+	+	+
8,9	+	2	5	2	1	+
6,7	2	8	18	8	2	+
4,5	3	7	13	6	1	+
2,3	2	5	7	3	1	+
0,1	1	1	1	+	+	+
-2,-1	+	+	+	+	+	+
-4,-3	+	+	+	+	0	0
-5	+	0	0	0	0	0

## Marine Area A

2532		Wind Speed (knots)					
TEMP	(°C)	0-	3	4-	10	21	22- 33 34
≥12	0	0	0	0	0	0	0
10,11	+	+	+	+	+	+	0
8,9	+	+	+	+	+	+	+
6,7	+	+	2	5	3	+	+
4,5	1	4	10	6	+	+	+
2,3	1	6	11	5	1	+	+
0,1	2	8	13	6	1	+	+
-2,-1	+	2	3	2	+	+	+
-4,-3	+	+	1	1	+	+	+
-6,-5	+	+	1	+	+	+	+
≤-7	0	+	+	+	+	+	+

## Marine Area B

1939		Wind Speed (knots)					
TEMP	(°C)	0-	3	4-	10	21	22- 33 34
≥14	0	0	0	0	+	0	0
12,13	0	0	0	+	0	0	0
10,11	0	+	1	+	+	+	+
8,9	+	1	2	1	+	+	+
6,7	+	3	9	6	1	+	+
4,5	1	4	13	10	2	+	+
2,3	1	6	10	8	2	+	+
0,1	1	3	6	4	1	+	+
-2,-1	0	+	1	1	+	+	+
-4,-3	0	+	+	+	+	+	+
≤-5	0	0	+	+	+	0	0

## Marine Area C

5124		Wind Speed (knots)					
TEMP	(°C)	0-	3	4-	10	21	22- 33 34
≥14	+	+	+	+	0	+	+
12,13	+	+	+	+	+	+	+
10,11	+	+	1	+	+	+	+
8,9	+	2	5	3	1	+	+
6,7	+	5	13	8	2	+	+
4,5	1	6	15	9	2	+	+
2,3	+	3	9	5	1	+	+
0,1	+	1	3	2	+	+	+
-2,-1	+	+	+	+	+	+	+
-4,-3	+	+	+	+	+	+	+
≤-5	0	0	0	0	0	0	0

## Marine Area D

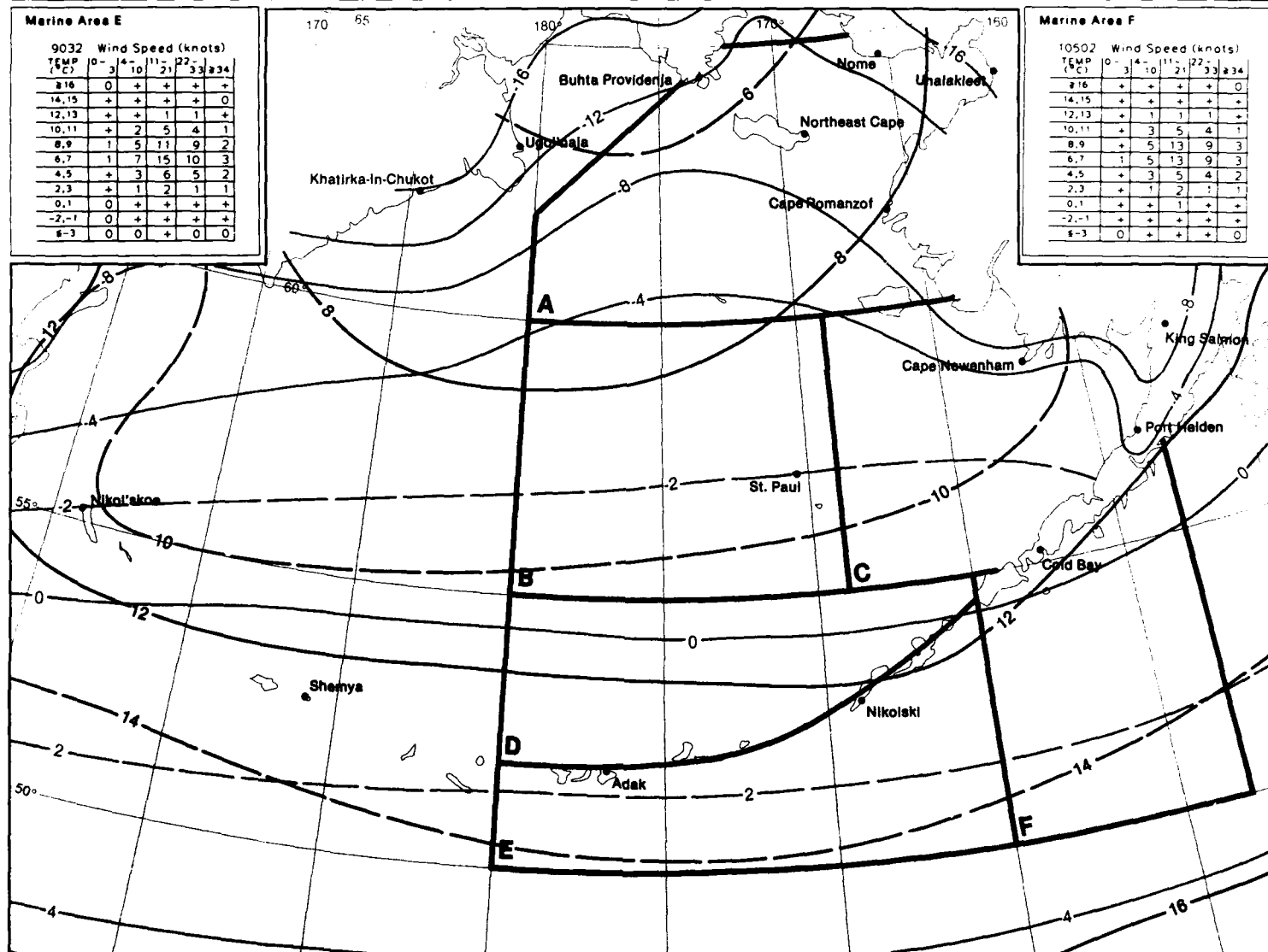
8215		Wind Speed (knots)					
TEMP	(°C)	0-	3	4-	10	21	22- 33 34
≥16	0	+	+	+	+	+	+
14,15	+	+	+	+	+	+	+
12,13	+	+	+	+	+	+	+
10,11	1	2	2	1	+	+	+
8,9	1	5	8	5	1	+	+
6,7	1	8	18	10	3	+	+
4,5	1	5	11	6	2	+	+
2,3	+	1	3	2	1	+	+
0,1	+	+	+	+	+	+	+
-2,-1	0	+	+	+	+	+	+
≤-3	+	+	+	+	0	0	0

## Marine Area E

9032		Wind Speed (knots)					
TEMP	(°C)	0-	3	4-	10	21	22- 33 34
≥16	0	+	+	+	+	+	+
14,15	+	+	+	+	+	+	+
12,13	+	+	1	1	1	+	+
10,11	+	2	5	4	1	+	+
8,9	1	5	11	9	2	+	+
6,7	1	7	15	10	3	+	+
4,5	+	3	6	5	2	+	+
2,3	+	1	2	1	1	+	+
0,1	0	+	+	+	+	+	+
-2,-1	0	+	+	+	+	+	+
≤-3	0	0	+	+	0	0	0

## Marine Area F

10502		Wind Speed (knots)					
TEMP	(°C)	0-	3	4-	10	21	22- 33 34
≥16	+	+	+	+	+	+	+
14,15	+	+	+	+	+	+	+
12,13	+	1	1	1	1	+	+
10,11	+	3	5	4	1	+	+
8,9	+	5	13	9	3	+	+
6,7	1	5	13	9	3	+	+
4,5	+	3	5	4	2	+	+
2,3	+	1	2	1	1	+	+
0,1	+	+	1	+	+	+	+
-2,-1	+	+	+	+	+	+	+
≤-3	0	+	+	+	+	0	0



7 Air Temperature Extremes

October

## Nikol'skoe

5268 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	0	0	0	0	0	0	0
8,9	0	0	0	0	0	0	+
6,7	0	+	+	+	+	+	+
4,5	+	1	3	1	1	1	+
2,3	1	4	8	6	3	3	+
0,1	1	5	8	4	1	1	+
-2,-1	2	7	10	4	2	2	+
-4,-3	2	5	7	3	1	1	+
-6,-5	1	2	2	1	+	+	+
-8,-7	+	+	1	+	+	+	+
≤-9	0	0	0	0	0	0	0

## Khatirka-In-Chukot

3240 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	2	5	6	4	1	1	+
-4,-3	1	1	2	2	+	+	+
-6,-5	1	1	2	3	+	+	+
-8,-7	1	2	4	3	1	1	+
-10,-9	1	2	2	1	+	+	+
-12,-11	1	2	3	2	1	1	+
-14,-13	1	2	3	2	1	1	+
-16,-15	1	2	3	2	1	1	+
-18,-17	1	2	4	3	1	1	+
-20,-19	+	1	1	1	+	+	+
≤-21	1	2	3	1	1	1	+

## Ugol'naia

4983 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	1	1	5	6	4	4	+
-4,-3	1	1	2	2	2	2	+
-6,-5	1	2	2	2	2	2	+
-8,-7	1	2	2	3	2	2	+
-10,-9	1	1	1	1	1	1	+
-12,-11	1	1	1	2	3	3	+
-14,-13	1	1	2	2	2	2	+
-16,-15	1	1	1	2	2	2	+
-18,-17	1	2	1	2	4	4	+
-20,-19	1	1	1	1	2	2	+
≤-21	2	2	2	3	3	3	+

## Buhta Provideniia

4295 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	+	1	2	1	+	+	+
0,1	+	2	3	+	+	+	+
-2,-1	1	3	5	1	+	+	+
-4,-3	1	4	5	1	+	+	+
-6,-5	1	4	5	1	+	+	+
-8,-7	2	5	6	1	+	+	+
-10,-9	2	3	2	1	+	+	+
-12,-11	3	4	3	1	+	+	+
-14,-13	2	3	3	+	+	+	+
-16,-15	2	3	1	+	+	+	+
≤-17	5	4	1	0	0	0	0

## Northeast Cape

10289 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	0	0	0	0	0	0	+
2,3	+	+	1	1	+	+	+
0,1	+	2	7	4	+	+	+
-2,-1	1	3	8	3	+	+	+
-4,-3	1	4	11	5	+	+	+
-6,-5	1	2	7	3	+	+	+
-8,-7	1	3	7	3	+	+	+
-10,-9	1	2	5	2	+	+	+
-12,-11	+	1	2	+	+	+	+
-14,-13	+	1	1	+	+	+	+
≤-15	+	1	2	+	+	+	+

## Nome

21112 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	+	3	6	2	+	+	+
-2,-1	+	3	4	1	+	+	+
-4,-3	1	4	6	1	+	+	+
-6,-5	1	3	4	1	+	+	+
-8,-7	2	5	5	1	+	+	+
-10,-9	2	6	4	1	0	0	0
-12,-11	1	4	2	+	+	+	+
-14,-13	2	4	2	+	+	+	+
-16,-15	1	2	1	+	0	0	0
-18,-17	2	2	1	+	0	0	0
≤-19	4	5	1	+	0	0	0

## Unalakleet

15355 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	1	4	8	2	+	+	+
-4,-3	+	2	5	2	+	+	+
-6,-5	1	2	4	1	+	+	+
-8,-7	1	4	5	2	+	+	+
-10,-9	1	4	5	2	+	+	+
-12,-11	1	3	3	1	+	+	+
-14,-13	1	3	4	1	+	+	+
-16,-15	1	2	2	1	+	+	+
-18,-17	1	2	1	1	+	+	+
-20,-19	1	2	1	+	+	+	+
≤-21	2	7	1	+	+	+	+

## Cape Romanzof

17739 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	+	+	+	+	+	0	0
2,3	+	1	2	1	+	+	+
0,1	1	3	7	2	+	+	+
-2,-1	2	3	6	1	+	+	+
-4,-3	3	4	6	2	+	+	+
-6,-5	3	4	5	2	+	+	+
-8,-7	3	4	4	3	+	+	+
-10,-9	2	2	3	2	1	1	+
-12,-11	1	1	2	1	+	+	+
-14,-13	1	1	2	1	+	+	+
≤-15	1	1	2	1	1	1	1

## Cape Newenham

19267 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	0	+	+	0	0	0	0
6,7	+	+	1	1	+	+	+
4,5	+	1	3	1	+	+	+
2,3	1	5	8	1	+	+	+
0,1	4	9	8	1	+	+	+
-2,-1	3	4	4	1	+	+	+
-4,-3	3	4	5	1	+	+	+
-6,-5	2	3	3	1	+	+	+
-8,-7	2	2	2	1	+	+	+
-10,-9	1	2	2	1	+	+	+
≤-11	2	3	3	1	+	+	+

## King Salmon

18239 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	+	2	6	2	+	+	+
2,3	1	4	6	1	+	+	+
0,1	2	9	4	+	+	+	+
-2,-1	1	5	2	+	0	0	0
-4,-3	2	5	2	+	0	0	0
-6,-5	1	3	1	+	0	0	0
-8,-7	2	5	2	+	0	0	0
-10,-9	2	4	1	+	0	0	0
-12,-11	1	2	1	+	0	0	0
-14,-13	1	3	2	+	+	+	+
≤-15	3	7	3	+	0	0	0

## Port Heiden

5524 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	+	+	+	1	+	+	+
6,7	+	+	1	1	+	+	+
4,5	+	1	3	1	+	+	+
2,3	1	6	8	3	1	1	+
0,1	2	9	6	1	+	+	+
-2,-1	2	9	5	1	+	+	+
-4,-3	2	6	4	+	0	0	0
-6,-5	1	5	2	+	0	0	0
-8,-7	+	3	2	+	0	0	0
-10,-9	+	2	1	+	0	0	0
≤-11	+	3	2	+	0	0	0

## Cold Bay

13919 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	+	+	+	+	+	+	+
8,9	0	+	+	+	+	+	+
6,7	+	1	3	2	1	1	+
4,5	+	3	5	3	1	1	+
2,3	1	8	13	5	1	1	+
0,1	1	10	11	3	+	+	+
-2,-1	1	4	4	2	+	+	+
-4,-3	1	3	4	2	+	+	+
-6,-5	+	1	1	+	+	+	+
-8,-7	+	1	+	+	+	+	+
≤-9	+	+	+	+	+	+	+

## Nikolaki

2077 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥12	0	0	0	0	0	0	0
10,11	0	0	0	0	0	0	0
8,9	0	0	+	0	+	+	+
6,7	0	+	2	1	+	+	+
4,5	+	4	5	2	+	+	+
2,3	2	9	14	6	1	1	+
0,1	2	11	17	10	1	1	+
-2,-1	1	2	3	2	1	1	+
-4,-3	+	+	1	1	+	+	+
-6,-5	0	+	+	+	+	+	+
≤-7	0	0	0	0	0	0	0

## St. Paul

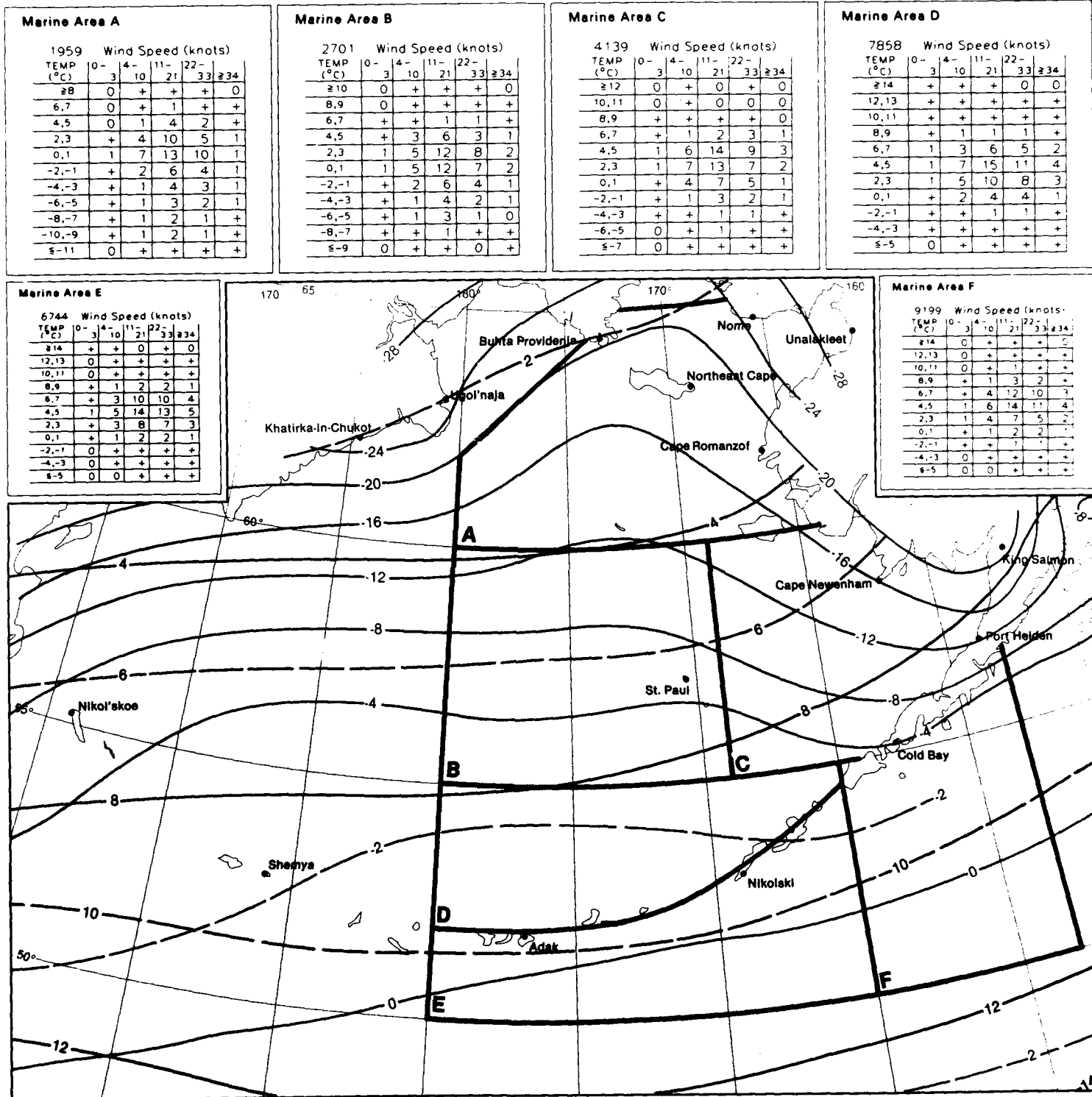
11380 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥10	0	0	0	0	0	0	0
8,9	0	+	+	+	+	+	+
6,7	0	+	1	1	+	+	+
4,5	+	1	6	4	+	+	+
2,3	+	4	15	7	1	1	+
0,1	1	8	14	7	1	1	+
-2,-1	1	4	6	2	+	+	+
-4,-3	1	3	4	2	+	+	+
-6,-5	+	1	1	1	+	+	+
-8,-7	+	1	1	1	+	+	+
≤-9	+	+	+	+	+	+	+

## Adak

20880 Wind Speed (knots)		0-	4-	11-	22-	33	≥34
TEMP (°C)	°C	3	10	21	33	≥34	
≥12	0	+	+	+	+	+	+
10,11	0	+	+	+	+	+	+
8,9	+	+	1	1	+	+	+
6,7	+	3	5	2	+	+	+
4,5	1	6	9	4	1	1	+
2,3	3	12	16	5	1	1	+
0,1	5	8	8	2	+	+	+
-2,-1	2	2	1	+	+	+	+
-4,-3	1	+	+	+	0	0	0
-6,-5	+	+	+	+	0	0	0
≤-7	+	+	0	0	0	0	0

## Shemya

18861		Wind Speed (knots)					
TEMP		0-	4-	11-	22-	33	≥34
(°C)		3	10	21	33	≥34	
≥12		0	0	0	0	0	
10,11		0	0	0	0	0	
8,9		0	0	0	0	+	
6,7		+	+	1	2	1	
4,5		1	2	7	5	1	
2,3		2	6	16	11	3	
0,1		2	6	14	7	1	
-2,-1		1	2	4	2	+	
-4,-3		1	1	1	+	+	
-6,-5		+	+	+	+	+	
-7		+	+	0	0	+	



7 Air Temperature Extremes

November

## Nikol'skoe

5423	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	0	0	0	0	0	0
4,5	0	+	+	+	+	+
2,3	+	1	3	2	1	
0,1	1	4	6	3	1	
-2,-1	2	6	10	5	3	
-4,-3	2	6	9	4	2	
-6,-5	2	5	7	3	1	
-8,-7	2	3	4	1	+	
-10,-9	+	1	+	+	+	
-12,-11	+	+	+	+	0	
≤-13	0	0	0	0	0	

## Khatirka-In-Chukot

3264	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	4	5	6	3	1	
-8,-7	1	1	2	1	1	
-10,-9	1	1	1	1	+	
-12,-11	1	1	2	2	+	
-14,-13	+	1	3	3	1	
-16,-15	1	1	5	3	1	
-18,-17	1	2	5	4	2	
-20,-19	1	1	2	2	1	
-22,-21	1	2	3	1	+	
-24,-23	+	2	3	2	1	
≤-25	1	3	5	2	1	

## Ugol'naja

5188	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	3	4	7	6	4	
-8,-7	1	1	2	2	1	
-10,-9	+	1	1	1	1	
-12,-11	1	1	1	1	1	
-14,-13	1	1	1	2	2	
-16,-15	1	1	1	2	3	
-18,-17	2	1	1	2	3	
-20,-19	1	1	1	2	2	
-22,-21	1	1	1	2	3	
-24,-23	1	1	1	1	3	
≤-25	2	2	3	4	4	

## Buhta Providenja

4438	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	1	4	5	1	+	
-6,-5	1	2	2	+	+	
-8,-7	2	2	3	1	+	
-10,-9	1	2	2	+	+	
-12,-11	2	3	3	1	+	
-14,-13	2	3	4	1	+	
-16,-15	2	3	3	1	+	
-18,-17	4	4	4	1	+	
-20,-19	3	2	1	+	+	
-22,-21	4	3	1	+	+	
≤-23	10	3	1	+	0	

## Northeast Cape

9400	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	1	3	10	4	1	
-6,-5	+	1	3	1	+	
-8,-7	1	2	4	1	+	
-10,-9	1	3	4	2	+	
-12,-11	1	2	3	1	0	
-14,-13	1	2	4	+	+	
-16,-15	1	2	2	+	+	
-18,-17	2	3	4	+	0	
-20,-19	3	3	4	+	+	
-22,-21	1	2	1	+	0	
≤-23	6	5	3	1	0	

## Nome

21808	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	1	6	11	3	+	
-8,-7	1	3	4	1	+	
-10,-9	1	3	2	1	+	
-12,-11	1	2	2	+	+	
-14,-13	2	4	3	+	+	
-16,-15	1	3	2	1	+	
-18,-17	2	4	2	+	+	
-20,-19	2	3	2	+	+	
-22,-21	2	2	1	+	0	
-24,-23	2	2	+	+	+	
≤-25	10	6	1	+	0	

## Unalakleet

15833	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	1	5	12	5	+	
-10,-9	1	2	4	2	+	
-12,-11	+	2	3	1	+	
-14,-13	1	3	3	2	+	
-16,-15	1	2	2	1	+	
-18,-17	1	2	2	1	+	
-20,-19	1	3	2	1	+	
-22,-21	1	2	2	1	+	
-24,-23	1	3	2	1	+	
-26,-25	1	2	1	+	+	
≤-27	5	14	2	+	+	

## Cape Romanzof

16634	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	1	3	8	3	+	
-4,-3	2	3	4	2	+	
-6,-5	1	2	2	1	+	
-8,-7	2	2	3	1	+	
-10,-9	2	2	3	2	+	
-12,-11	2	1	2	2	+	
-14,-13	2	2	3	2	1	
-16,-15	2	1	2	2	+	
-18,-17	1	1	3	2	+	
-20,-19	1	1	2	+	+	
≤-21	1	2	4	3	+	

## Cape Newenham

19087	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	+	2	5	3	+	
0,1	1	4	7	2	+	
-2,-1	2	3	4	1	+	
-4,-3	3	4	3	1	+	
-6,-5	2	2	2	1	+	
-8,-7	3	2	2	1	+	
-10,-9	3	2	2	1	+	
-12,-11	2	1	1	+	+	
-14,-13	2	2	2	+	+	
-16,-15	2	2	1	+	+	
≤-17	5	4	6	1	0	

## King Salmon

18840	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	2	13	13	3	+	
-4,-3	1	4	2	+	0	
-6,-5	1	3	1	+	0	
-8,-7	1	4	1	+	+	
-10,-9	1	3	1	+	0	
-12,-11	1	2	1	+	0	
-14,-13	1	3	1	+	0	
-16,-15	1	2	1	+	0	
-18,-17	1	2	1	+	0	
-20,-19	2	3	2	+	0	
≤-21	7	9	5	+	+	

## Port Heiden

5839	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	+	1	3	2	+	
2,3	+	3	8	3	+	
0,1	1	7	8	2	+	
-2,-1	1	6	5	1	+	
-4,-3	1	5	4	1	+	
-6,-5	1	3	2	+	+	
-8,-7	+	2	1	+	0	
-10,-9	1	2	1	+	0	
-12,-11	+	2	2	+	0	
-14,-13	+	3	3	+	0	
≤-15	+	4	8	1	0	

## Cold Bay

14359	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥6	0	0	+	+	+	
6,7	+	+	1	1	+	
4,5	+	1	2	3	+	
2,3	+	4	9	5	+	
0,1	1	10	12	4	+	
-2,-1	1	5	6	1	+	
-4,-3	1	5	6	2	+	
-6,-5	+	3	3	+	+	
-8,-7	1	2	3	1	+	
-10,-9	+	1	1	+	+	
≤-11	+	1	+	1	+	

## Nikolski

2182	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥10	0	0	0	0	0	
8,9	0	0	0	0	0	
6,7	0	+	+	+	+	
4,5	1	1	2	2	+	
2,3	1	4	6	3	+	
0,1	4	13	18	8	1	
-2,-1	3	6	8	4	1	
-4,-3	1	2	5	3	+	
-6,-5	0	1	1	1	+	
-8,-7	0	+	+	+	0	
≤-9	0	0	0	0	0	

## St. Paul

11798	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥8	0	0	0	0	0	
6,7	0	0	+	+	+	
4,5	0	+	1	1	+	
2,3	+	2	10	5	1	
0,1	1	6	13	6	1	
-2,-1	+	2	6	3	1	
-4,-3	1	4	7	4	1	
-6,-5	1	2	5	2	1	
-8,-7	1	2	4	2	+	
-10,-9	+	1	1	1	+	
≤-11	+	+	1	2	+	

## Adak

22273	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥10	0	+	+	+	+	
8,9	0	+	+	+	+	
6,7	+	1	1	1	+	
4,5	1	3	4	2	1	
2,3	3	9	12	4	1	
0,1	5	11	13	5	1	
-2,-1	3	4	4	2	+	
-4,-3	3	1	1	+	+	
-6,-5	1	+	+	+	0	
-8,-7	1	+	+	0	0	
≤-9	+	+	0	0	0	

## Shemya

19053	Wind Speed (knots)					
TEMP (°C)	0-	4-	11-	22-	33	≥34
≥10	0	0	0	0	0	
8,9	0	0	0	0	0	
6,7	+	+	+	+	+	
4,5	+	+	1	1	1	
2,3	2	2	10	2	+	
0,1	3	7	17	11	3	
-2,-1	2	6	9	4	+	
-4,-3	1	3	4	2	+	
-6,-5	+	1	1	+	+	
-8,-7	+	+	+	+	0	
≤-9	+	+	+	0	0	

## Marine Area A

2465	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34		
24	0	+	+	1	+		
2,3	+	+	2	2	+		
0,1	1	4	10	7	1		
-2,-1	+	2	3	2	1		
-4,-3	+	2	3	2	+		
-6,-5	+	2	4	3	1		
-8,-7	+	2	4	3	1		
-10,-9	+	1	3	3	1		
-12,-11	+	1	3	4	2		
-14,-13	+	1	3	3	2		
-15	+	1	3	3	2		

## Marine Area B

3321	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34		
28	0	+	+	+	+		
6,7	0	+	+	+	+		
4,5	+	1	1	1	+		
2,3	1	4	9	3	1		
0,1	1	5	11	4	1		
-2,-1	+	2	6	4	1		
-4,-3	+	3	6	4	1		
-6,-5	+	2	5	4	1		
-8,-7	+	1	3	2	1		
-10,-9	+	1	1	1	1		
-11	0	1	3	2	1		

## Marine Area C

4161	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34		
210	0	0	+	+	0		
8,9	+	+	+	+	0		
6,7	+	+	1	1	+		
4,5	1	4	8	7	1		
2,3	1	6	11	7	2		
0,1	+	4	8	6	1		
-2,-1	+	3	5	3	1		
-4,-3	+	2	4	3	1		
-6,-5	+	1	2	1	+		
-8,-7	0	+	1	1	+		
-9	+	+	+	1	+		

## Marine Area D

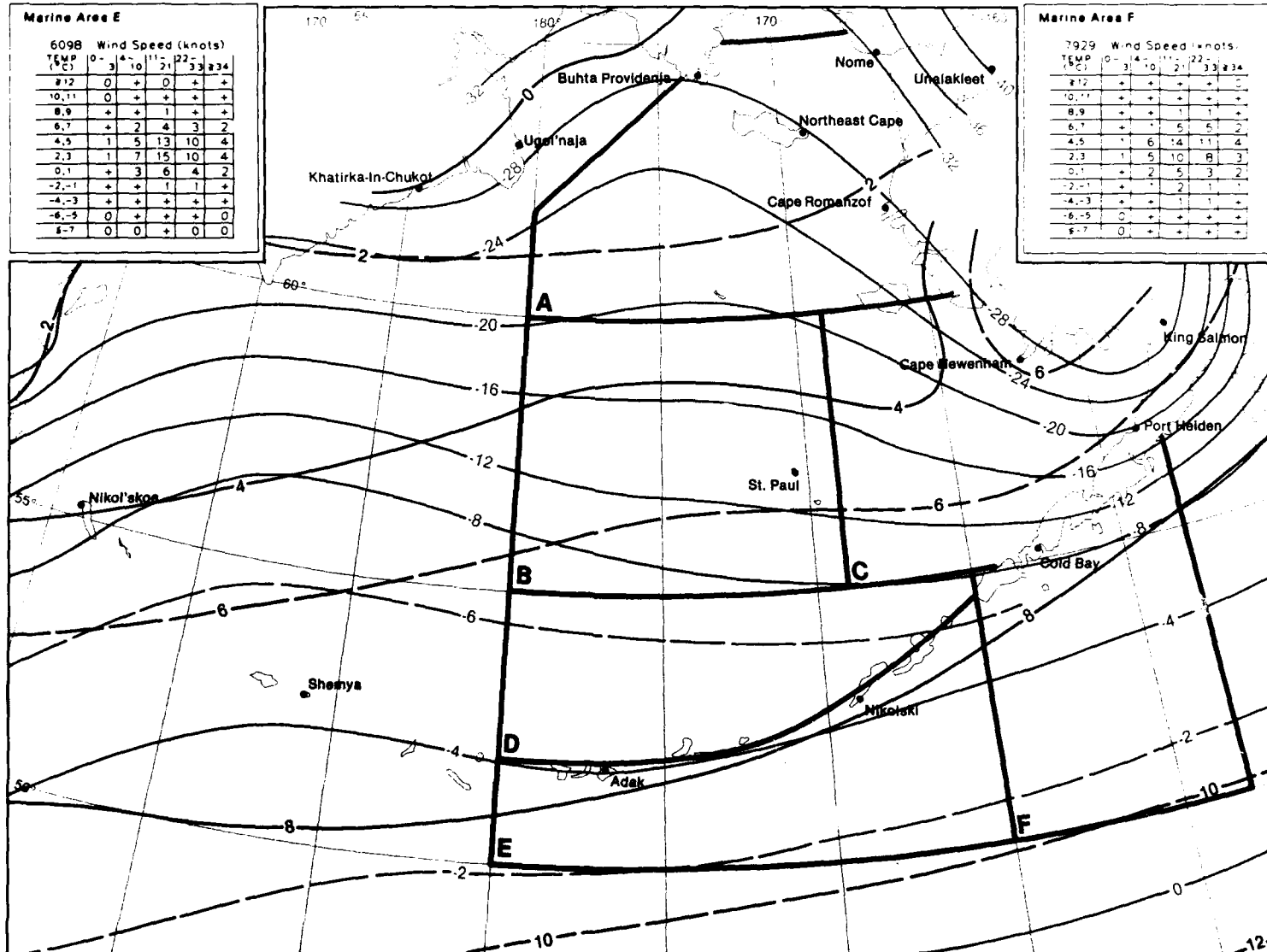
7381	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34		
212	+	+	+	+	0		
10,11	+	+	+	+	+		
8,9	+	+	+	+	+		
6,7	+	1	2	2	1		
4,5	1	4	10	9	4		
2,3	1	6	13	10	4		
0,1	1	4	7	6	2		
-2,-1	+	1	3	2	1		
-4,-3	+	+	1	1	+		
-6,-5	0	+	+	+	+		
-7	0	+	+	+	0		

## Marine Area E

6098	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34		
212	0	+	0	+	+		
10,11	0	+	+	+	+		
8,9	+	+	1	+	+		
6,7	+	2	4	3	2		
4,5	1	5	13	10	4		
2,3	1	7	15	10	4		
0,1	+	3	6	4	2		
-2,-1	+	+	1	1	+		
-4,-3	+	+	+	+	+		
-6,-5	0	+	+	+	0		
-7	0	0	+	0	0		

## Marine Area F

7929	Wind Speed (knots)						
TEMP (°C)	0-3	4-10	11-21	22-33	34		
212	+	+	+	+	0		
10,11	+	+	+	+	+		
8,9	+	+	1	1	+		
6,7	+	1	5	5	2		
4,5	1	6	14	11	4		
2,3	1	5	10	8	3		
0,1	+	2	5	3	2		
-2,-1	+	1	2	1	1		
-4,-3	+	+	1	1	+		
-6,-5	0	+	+	+	+		
-7	0	+	+	+	+		



7 Air Temperature Extremes

December



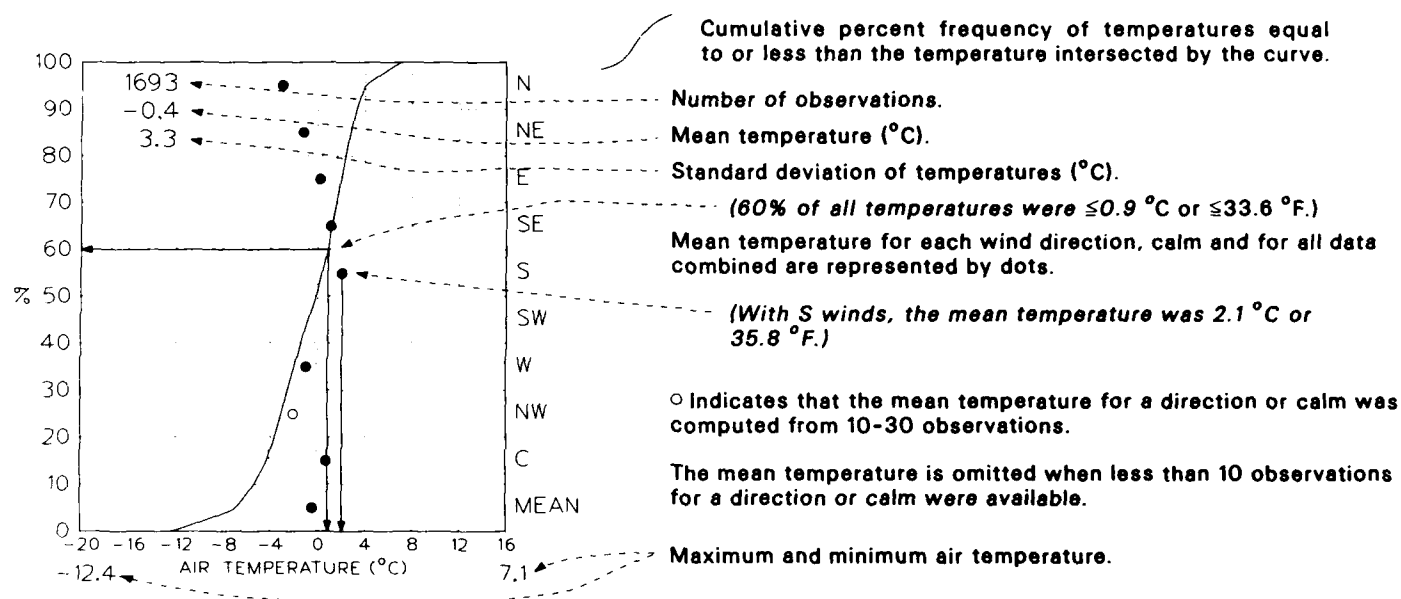
## Map 8. Air temperature mean and frequency $\leq 0^{\circ}\text{C}$

BLACK LINE – Mean air temperature ( $^{\circ}\text{C}$ ).

BLUE LINE – Percent frequency of temperature  $\leq 0^{\circ}\text{C}$  ( $\leq 32^{\circ}\text{F}$ ).

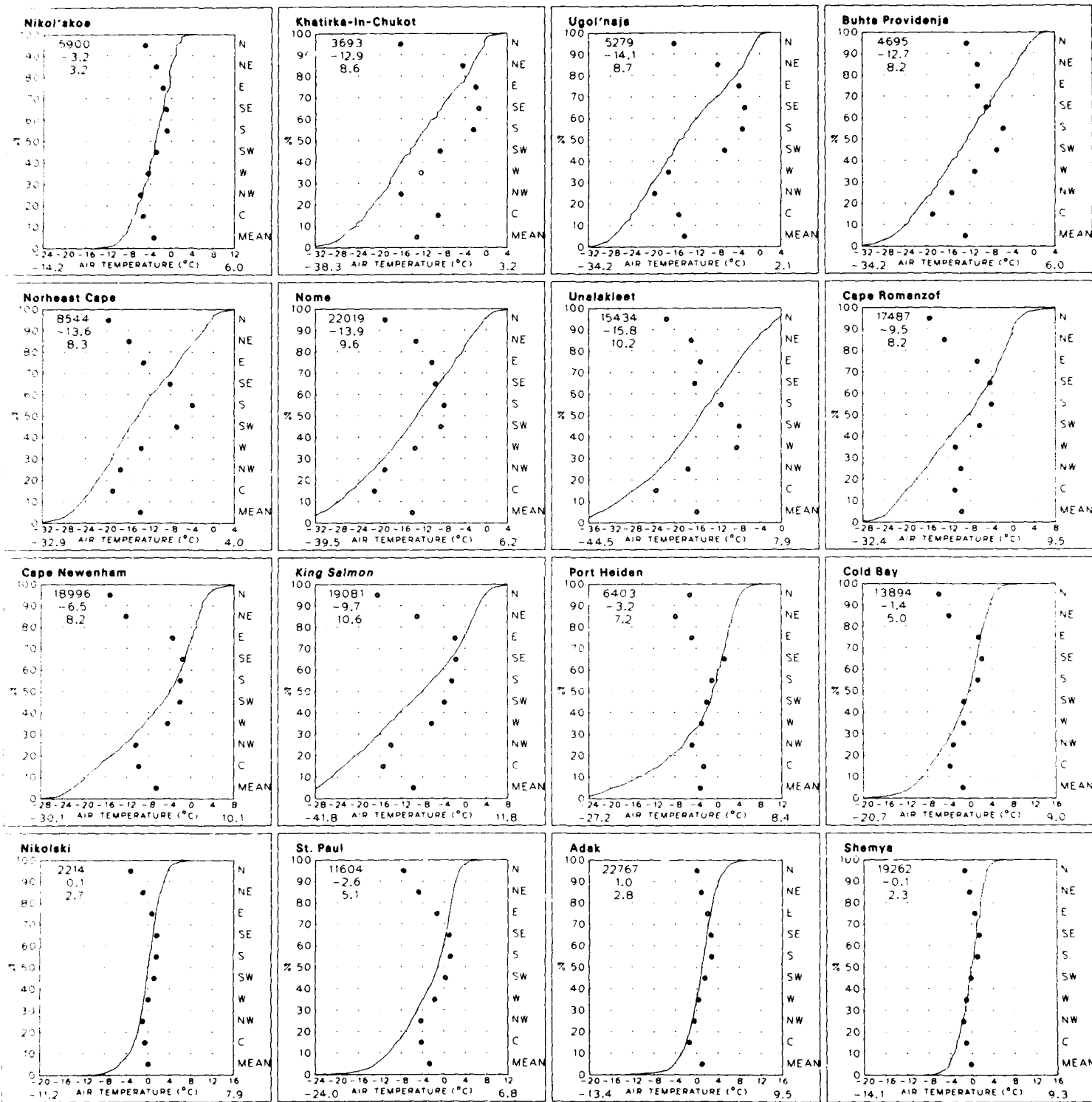
Albers Equal-Area Conic Projection

### Graphs: Air temperature/wind direction



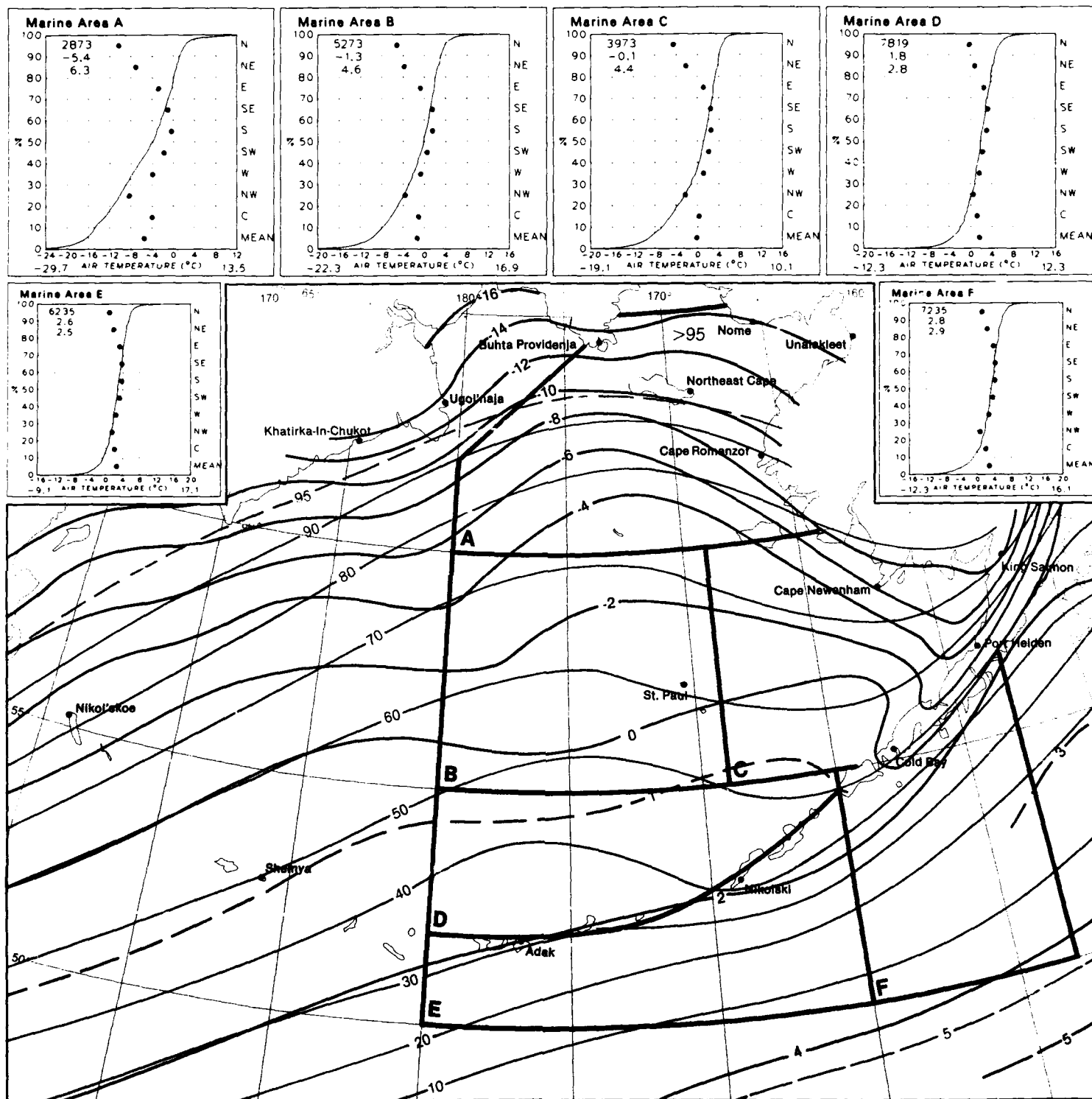
The temperature scale of the graphs varies in both range and class interval. The percent frequency of temperature observations greater than a given value can be obtained by subtracting the cumulative percent frequency of that value from 100%. The number of observations and the standard deviation, plus the plotted points on the graphs, are based on those observations reporting both temperature and wind direction. The cumulative curve is based on all observations reporting temperature with or without wind direction.





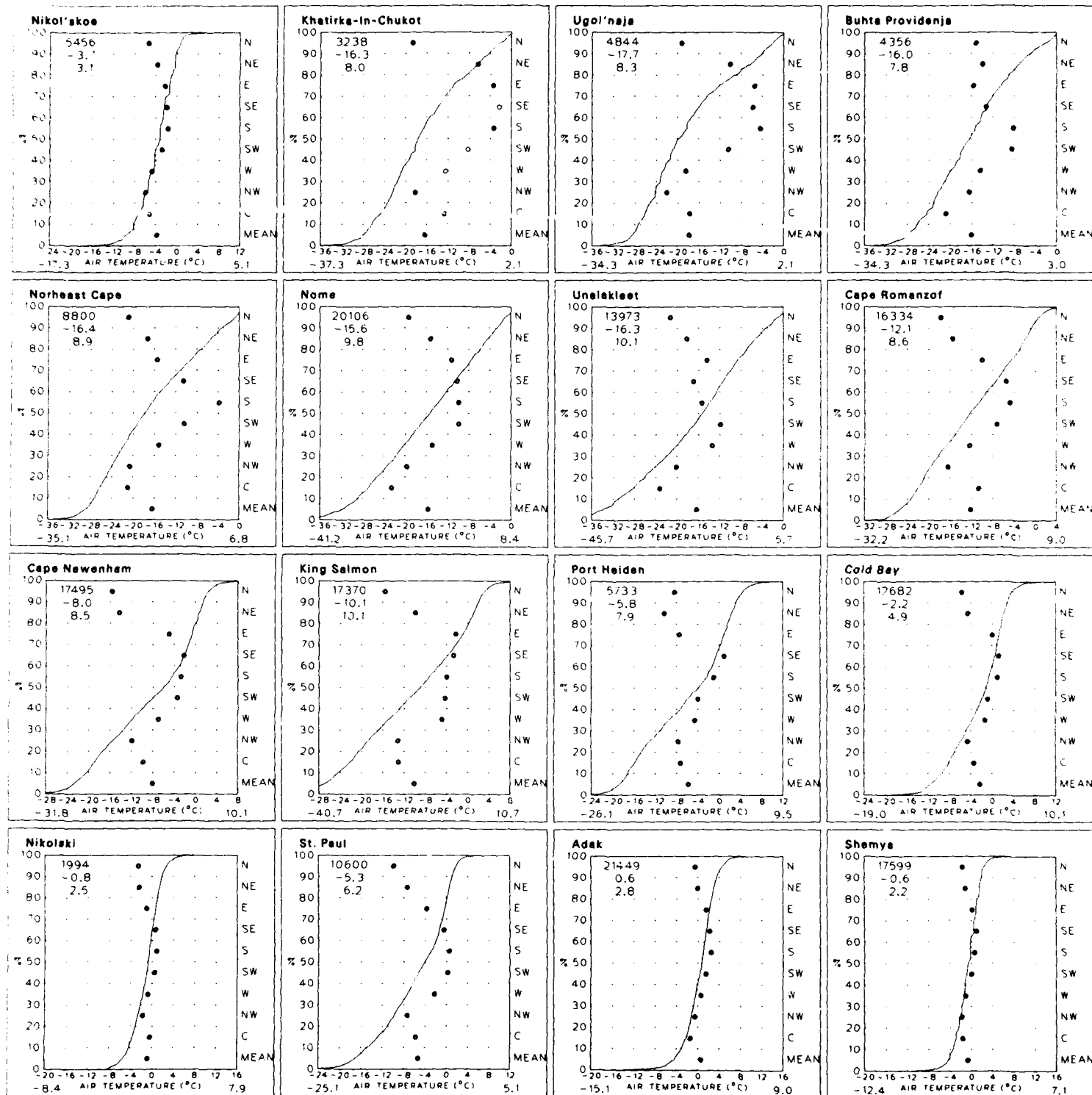
January

8 Air Temperature and Wind Direction



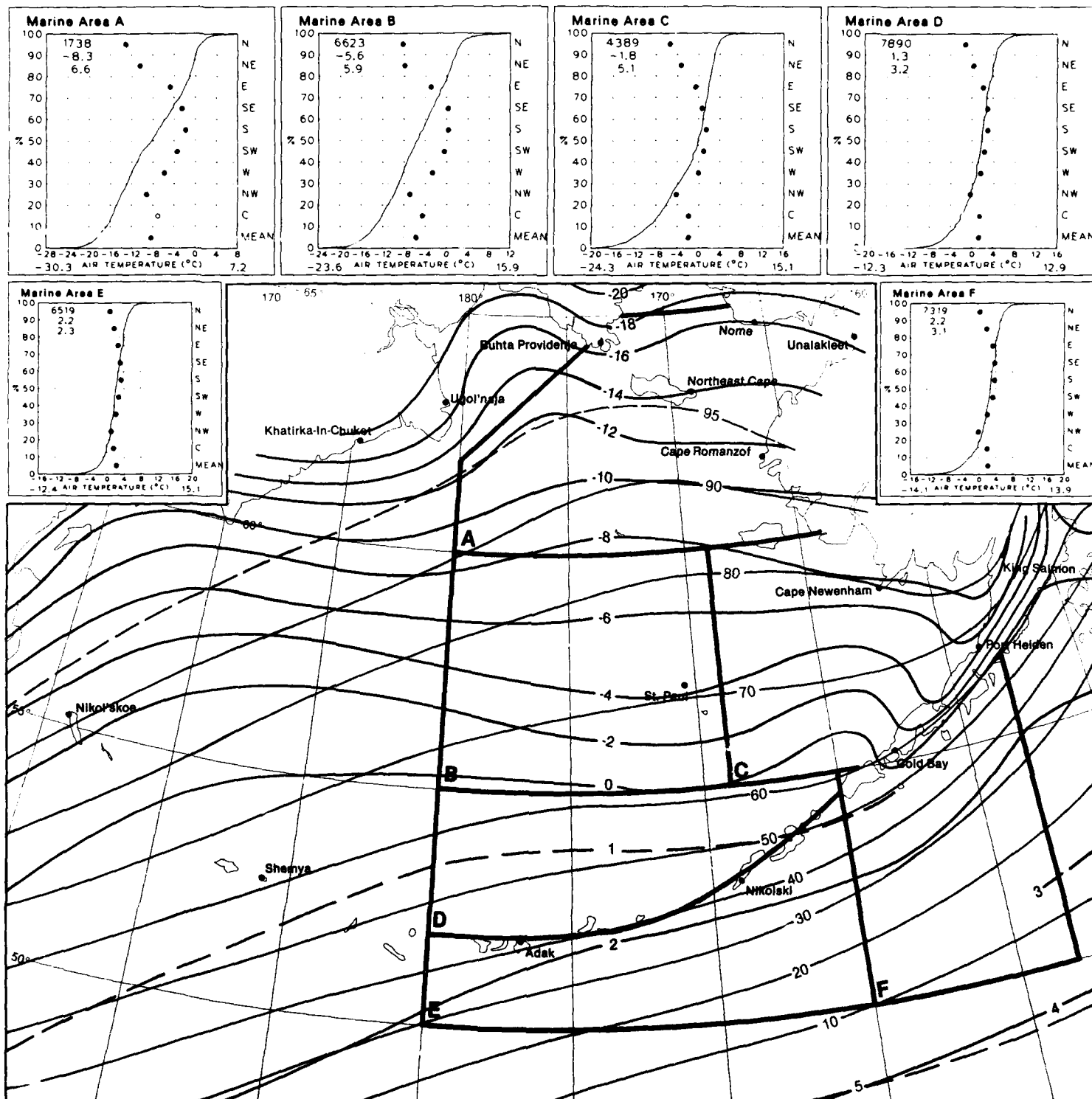
8 Air Temperature Mean and Frequency  $\geq 0^{\circ}\text{C}$

January

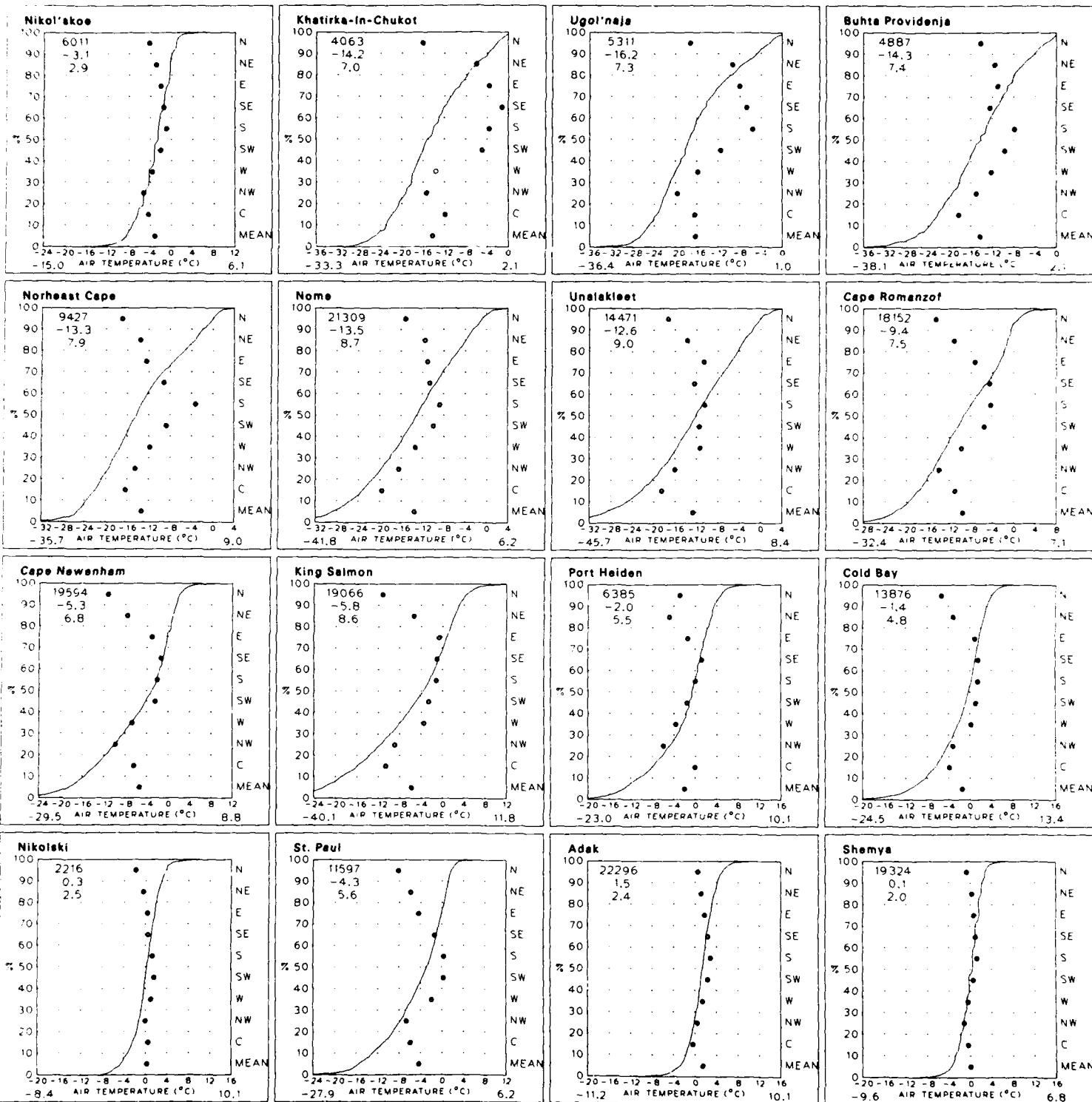


February

8 Air Temperature and Wind Direction

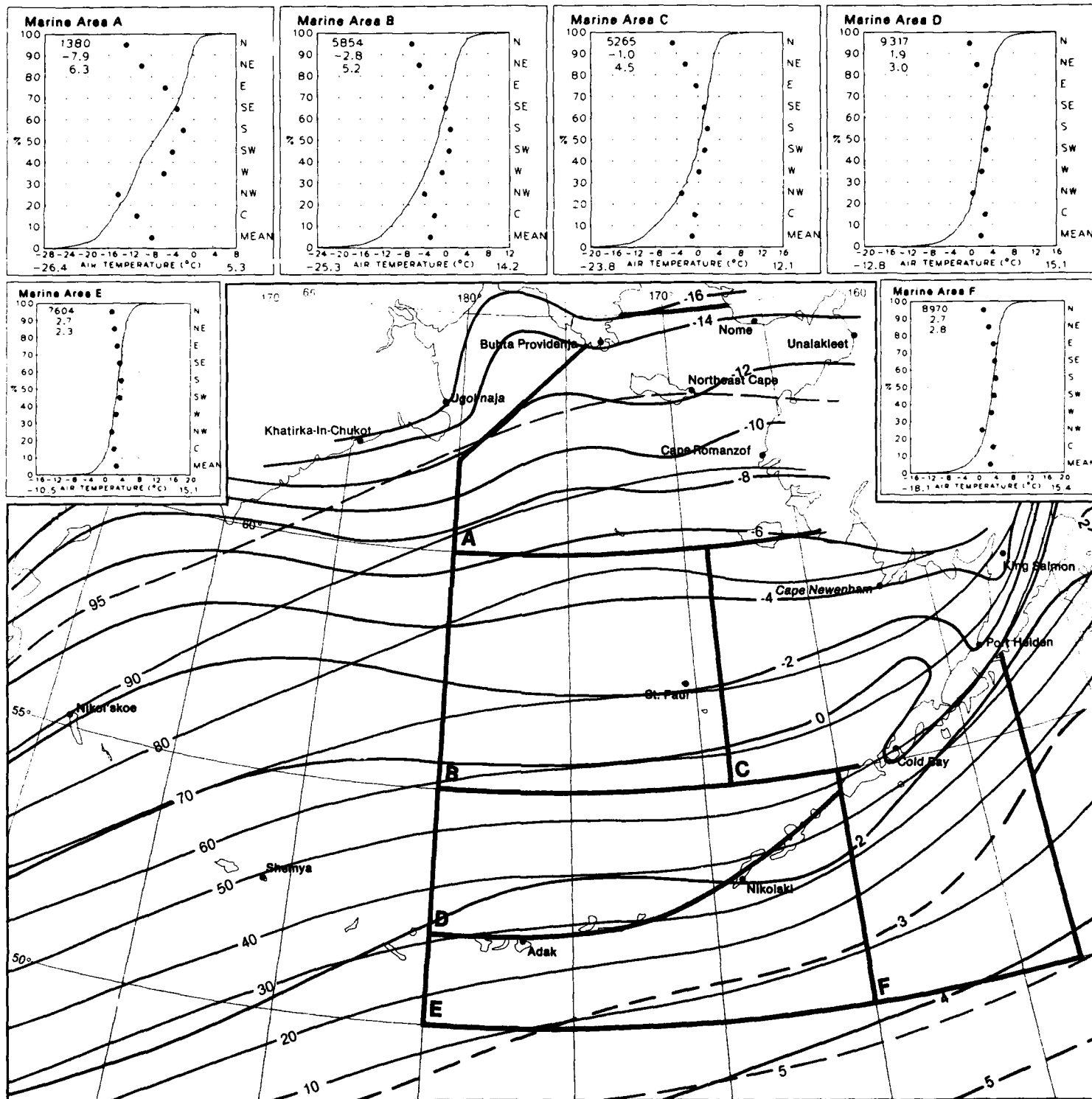

8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$ 

February



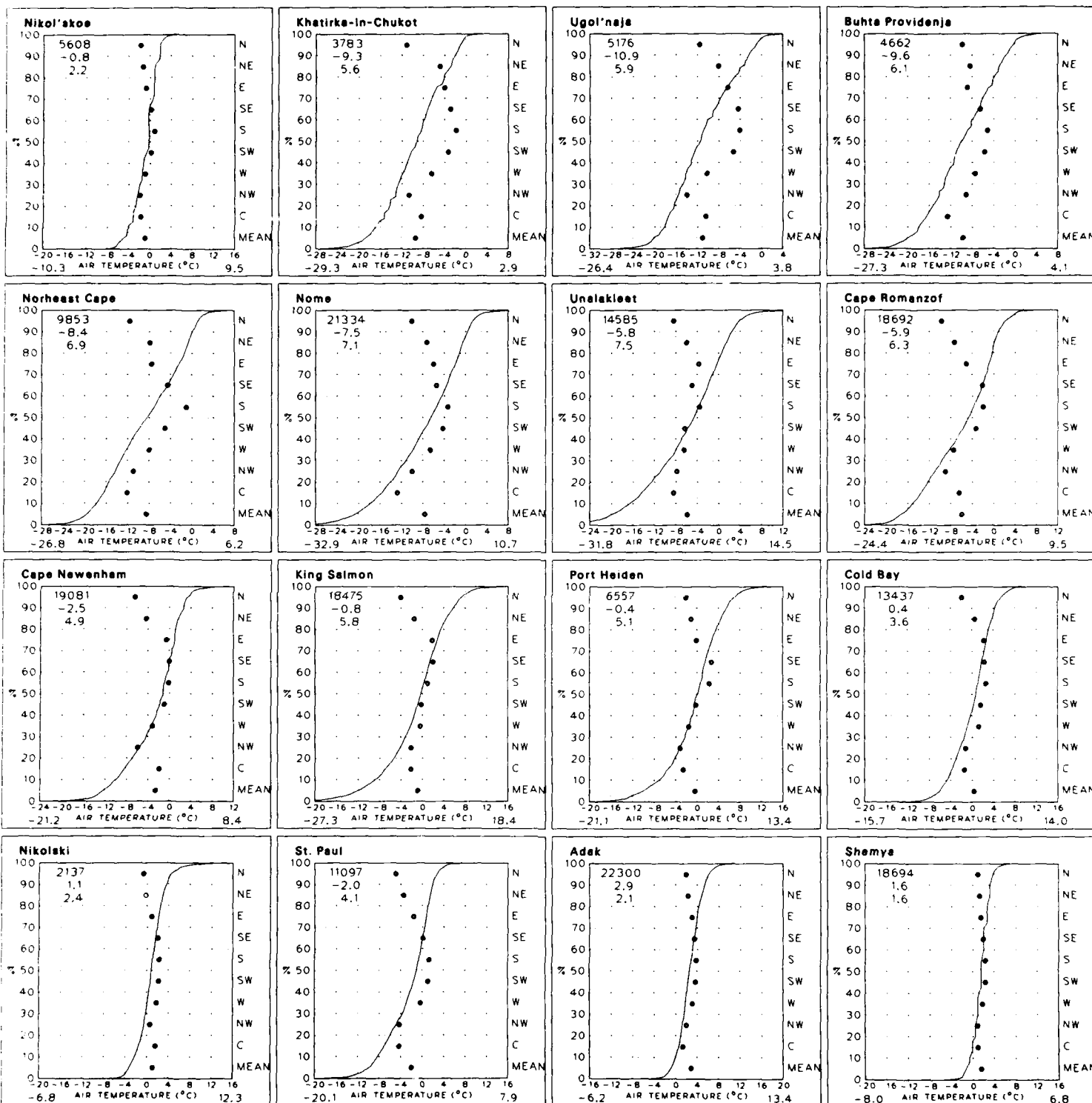
March

8 Air Temperature and Wind Direction



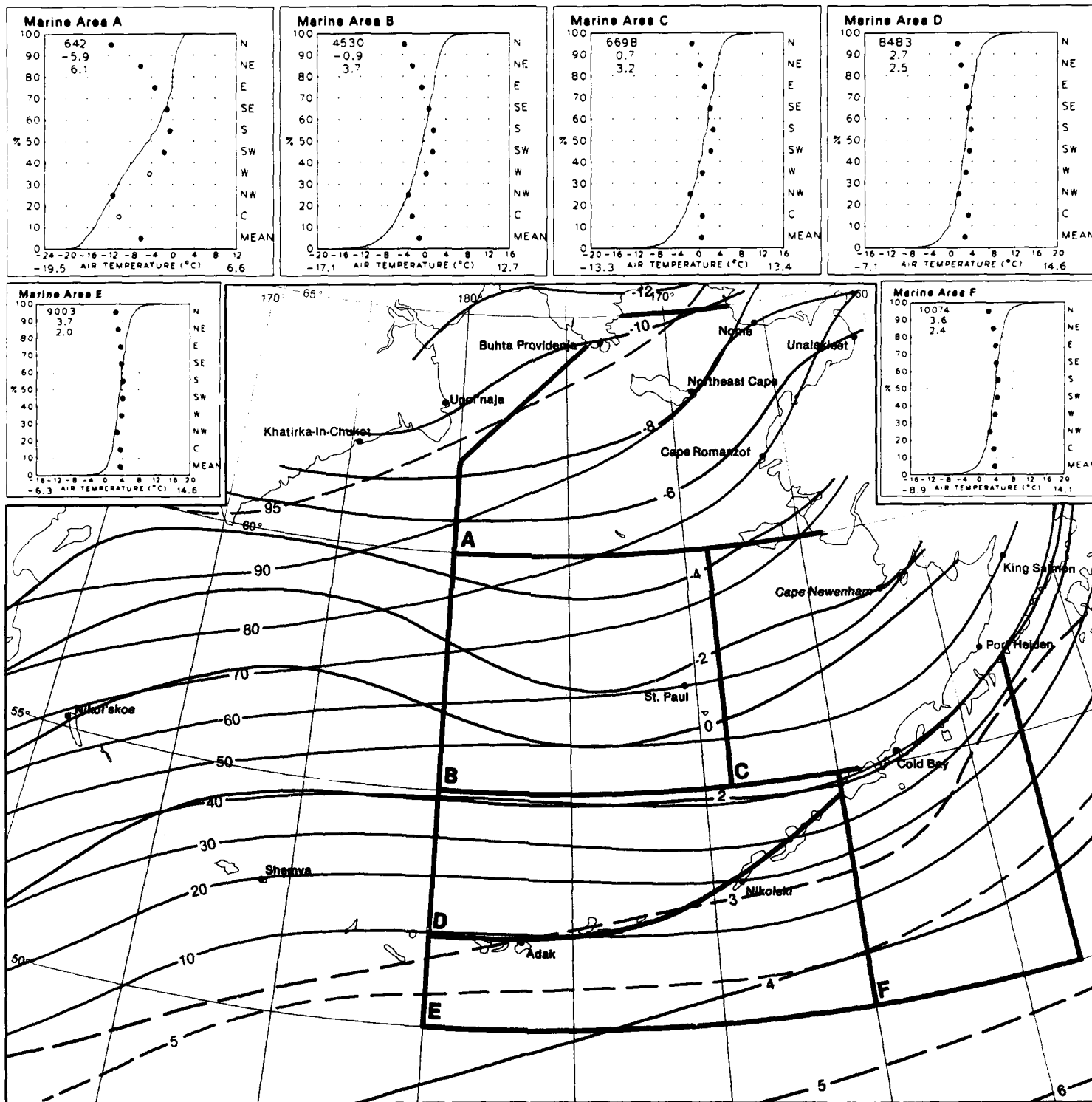
8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$

March



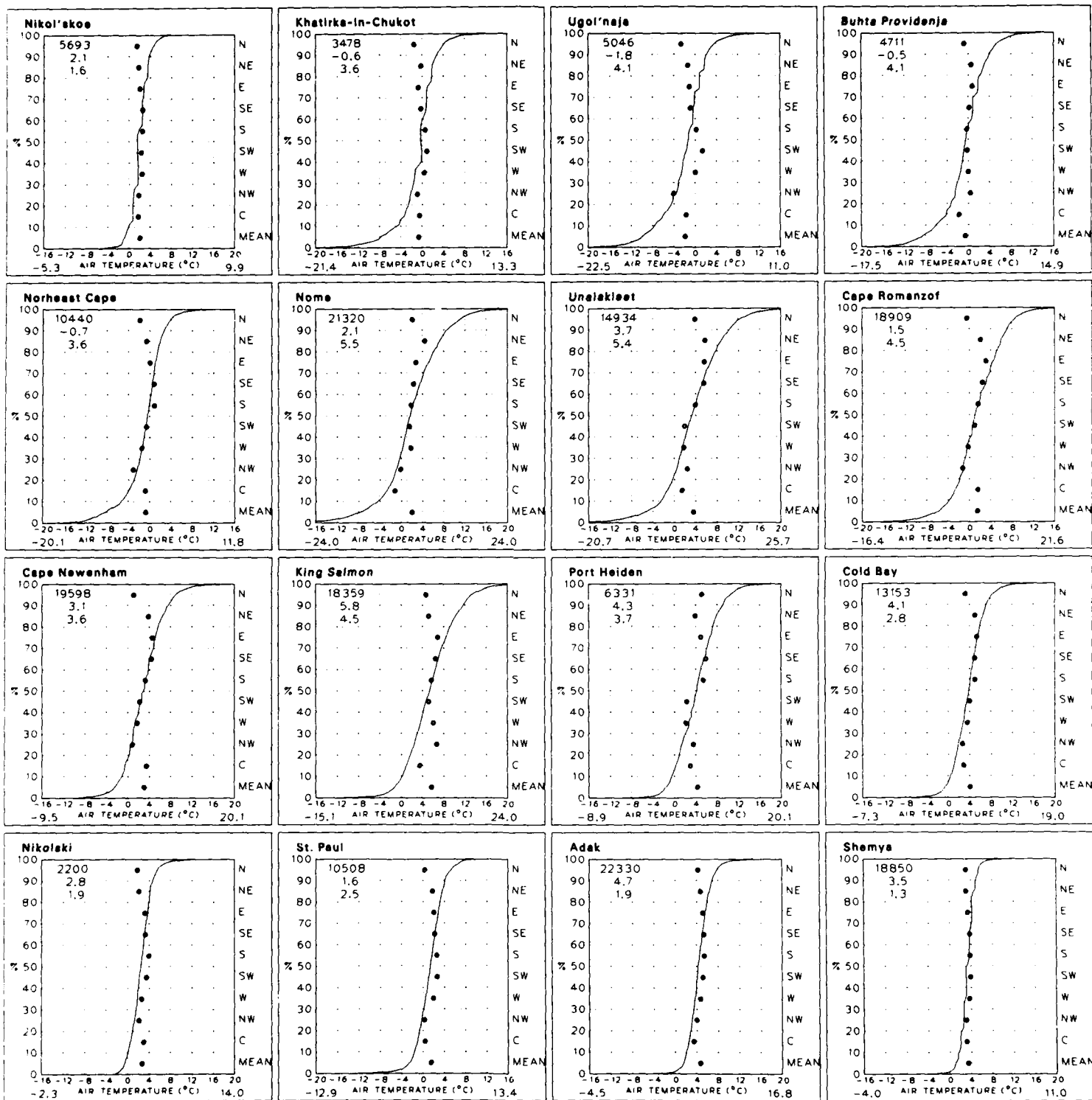
April

8 Air Temperature and Wind Direction


8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$ 

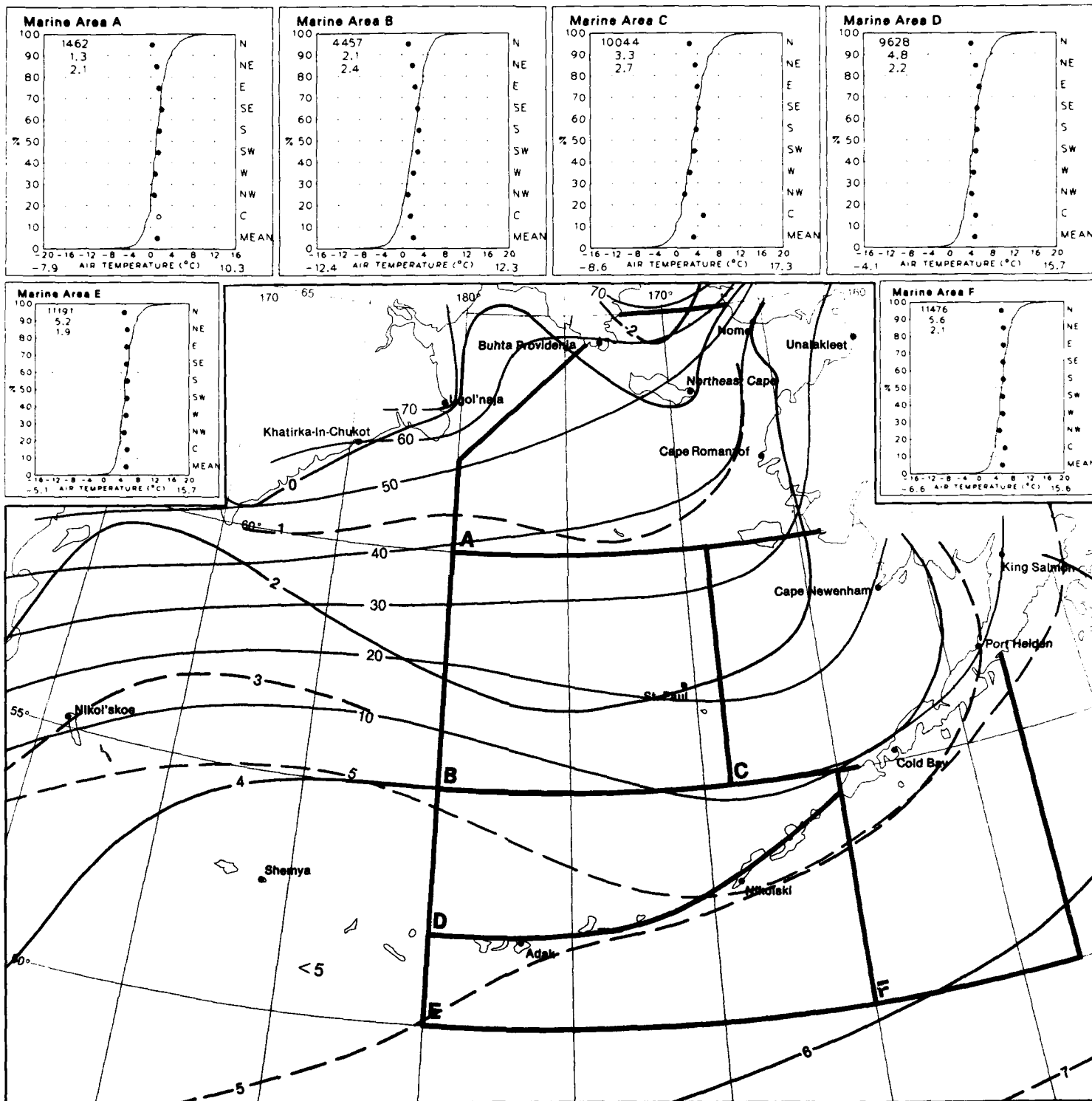
April





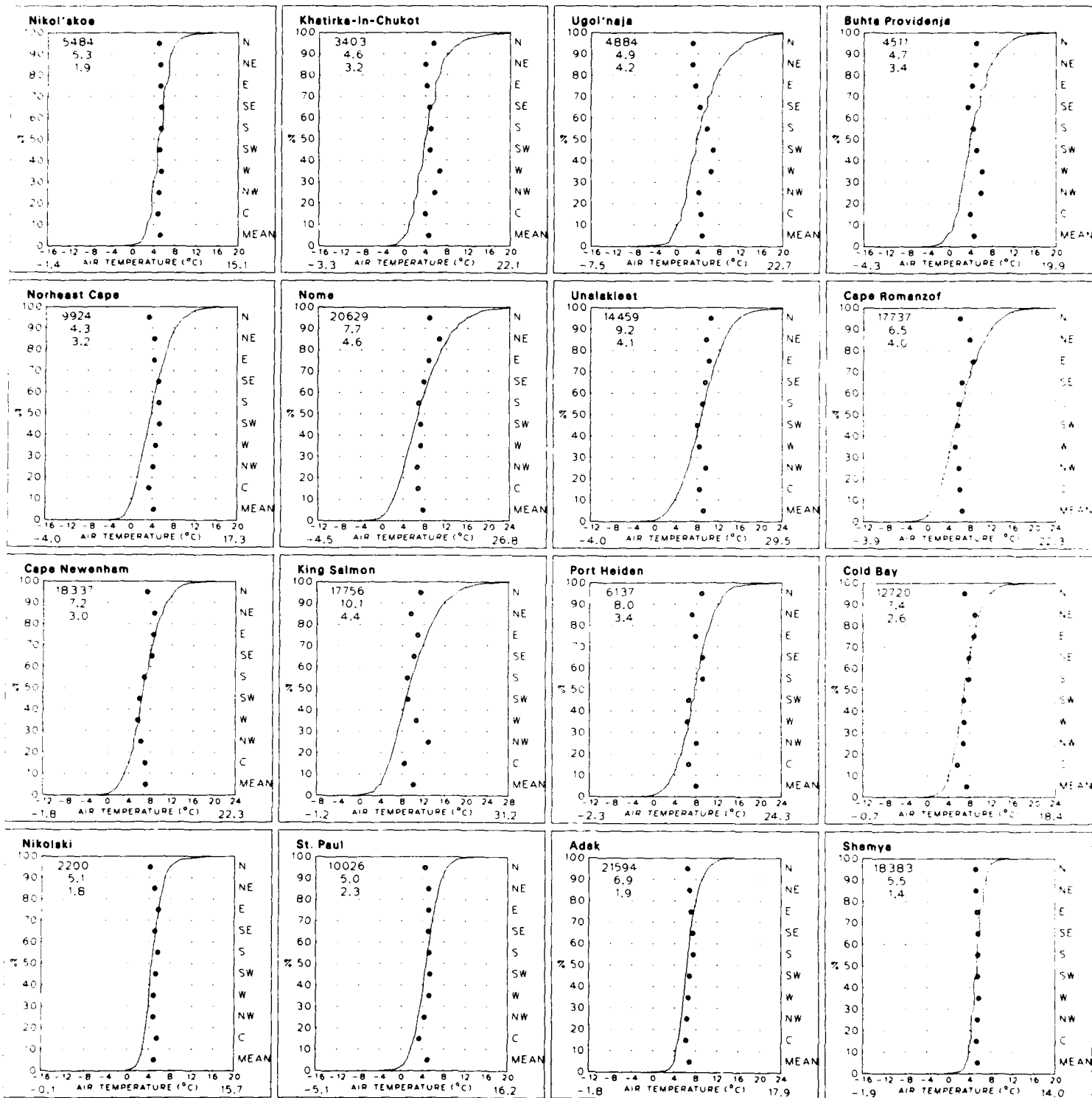
May

8 Air Temperature and Wind Direction



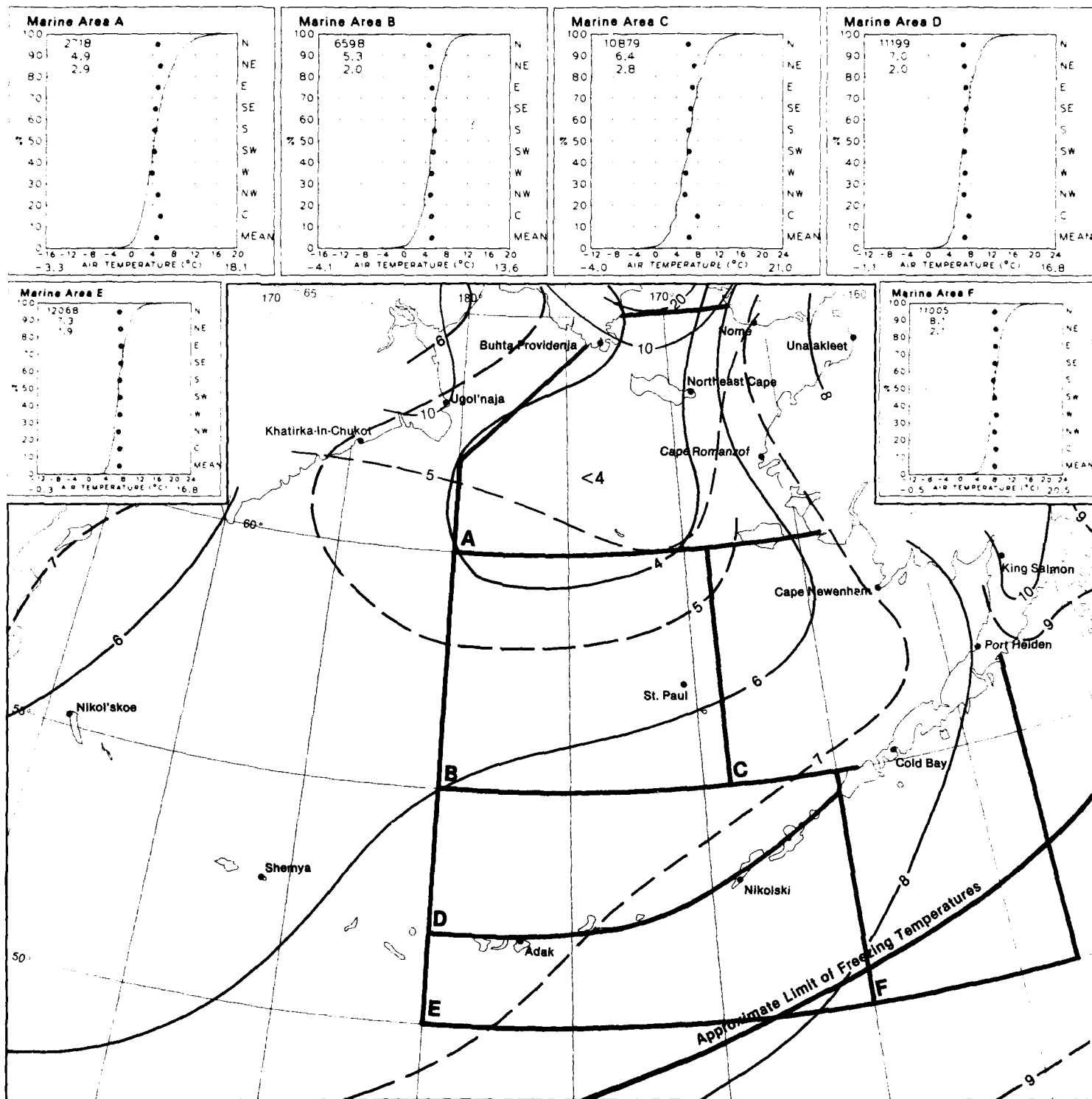
8 Air Temperature Mean and Frequency  $\geq 0^{\circ}\text{C}$

May



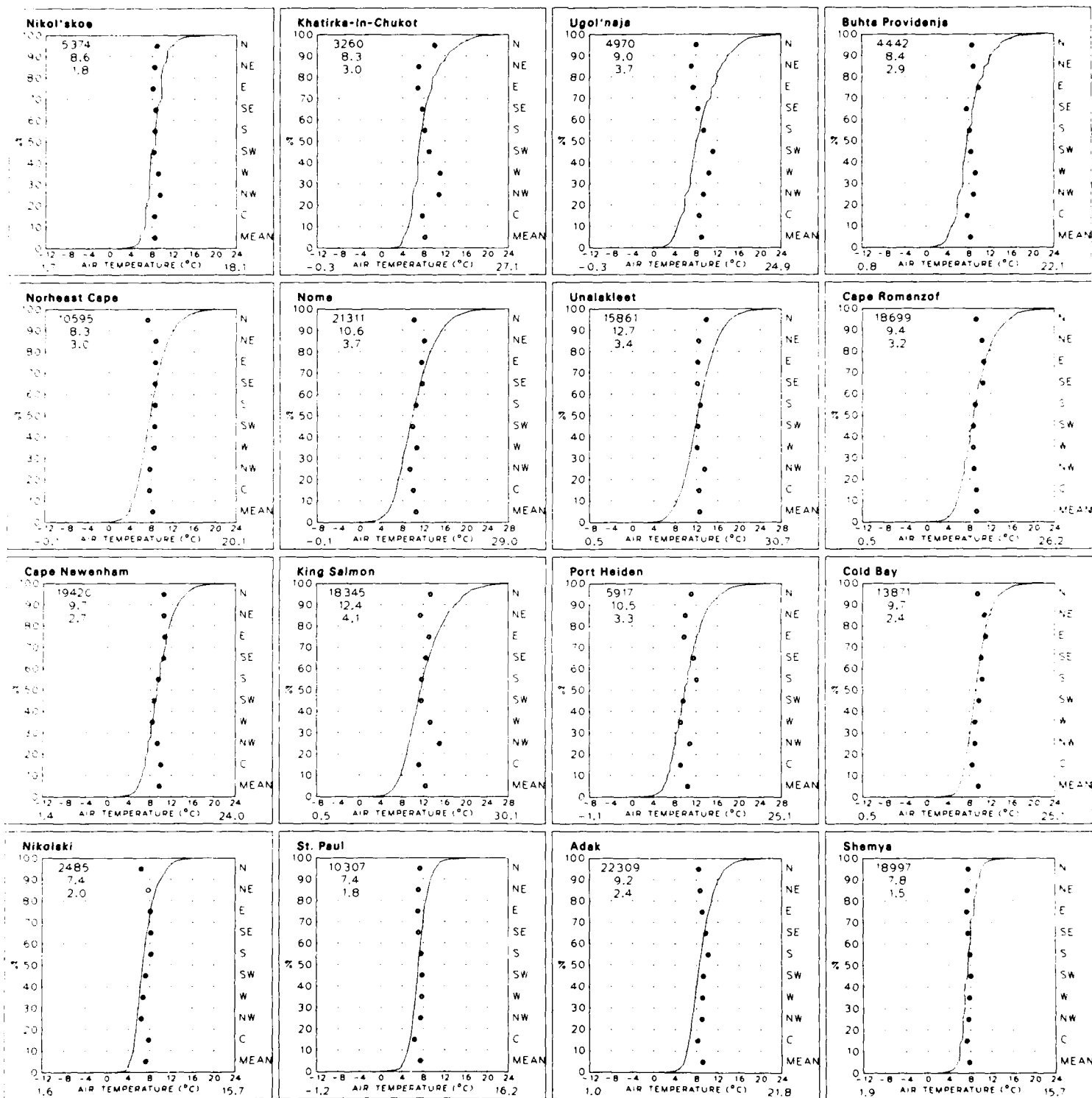
June

8 Air Temperature and Wind Direction



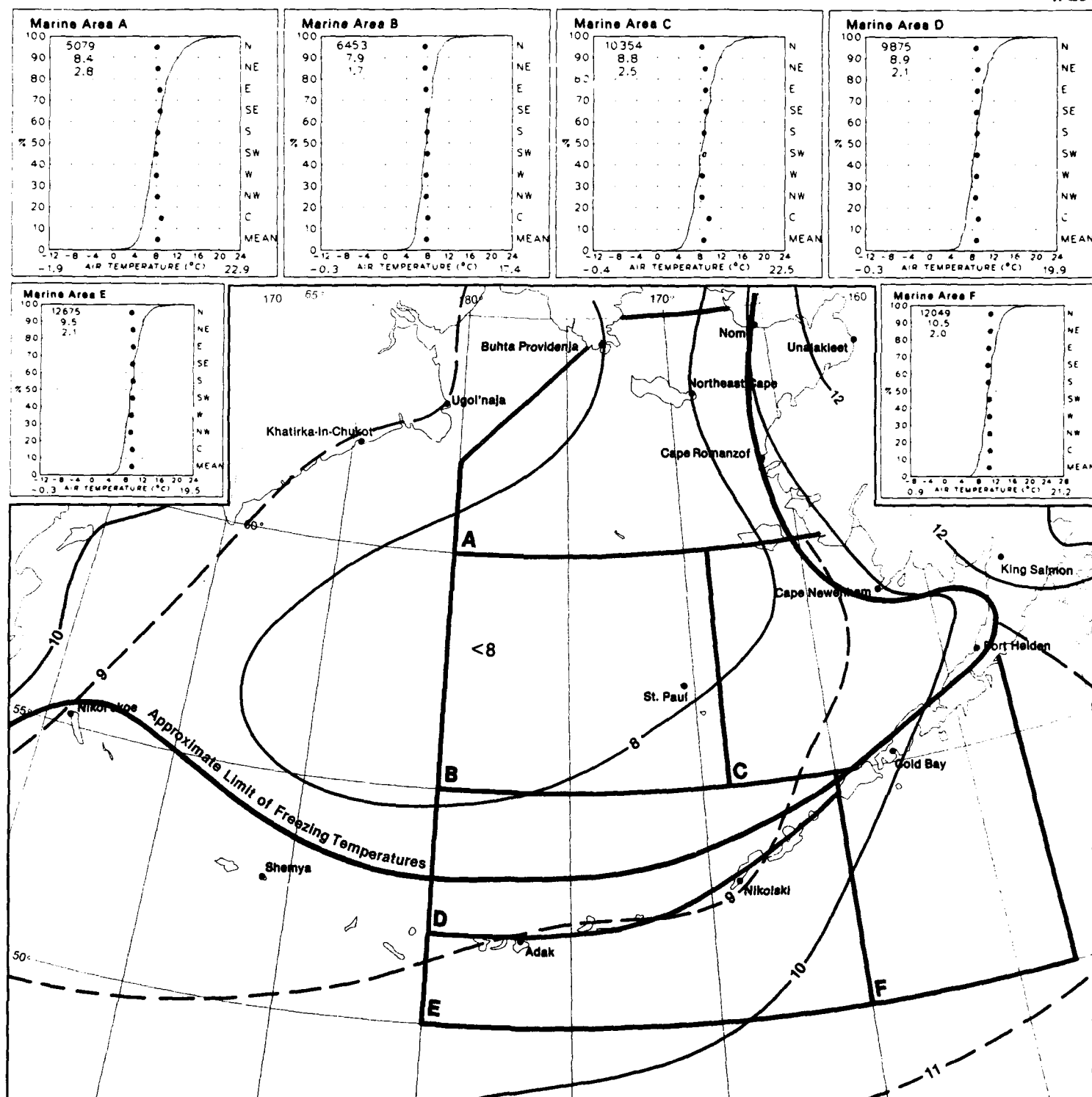
8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$

June

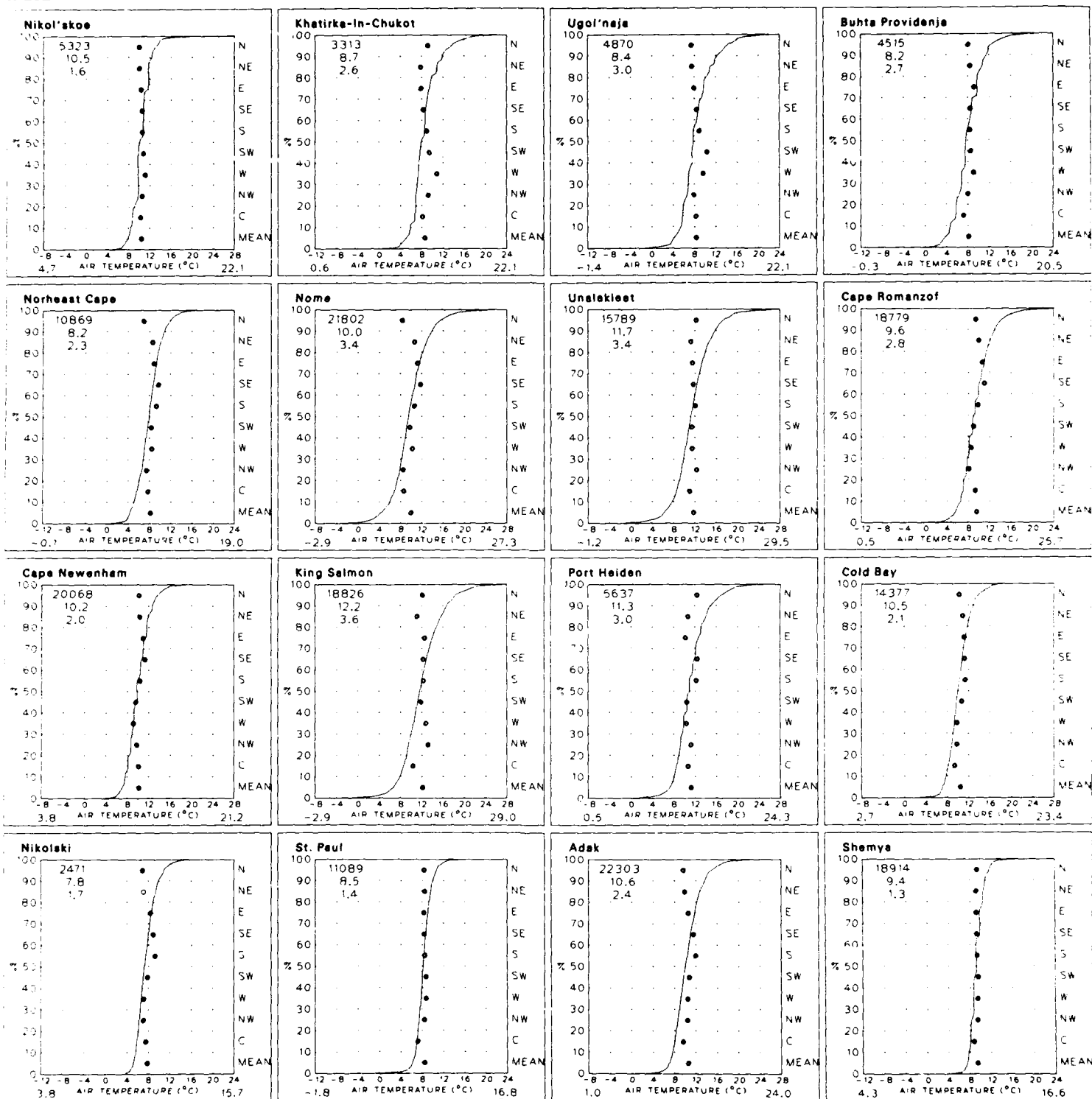


July

8 Air Temperature and Wind Direction

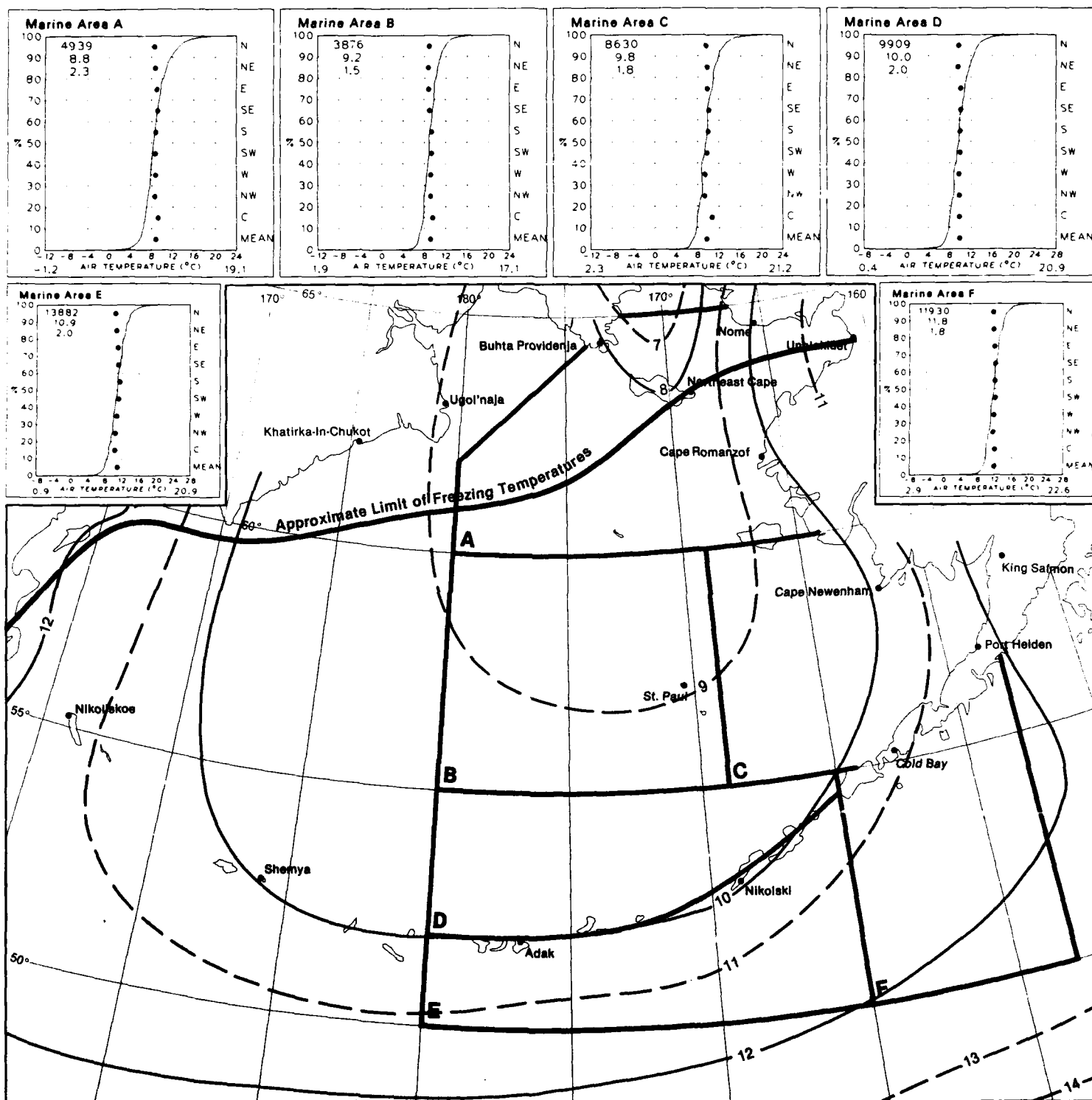


July

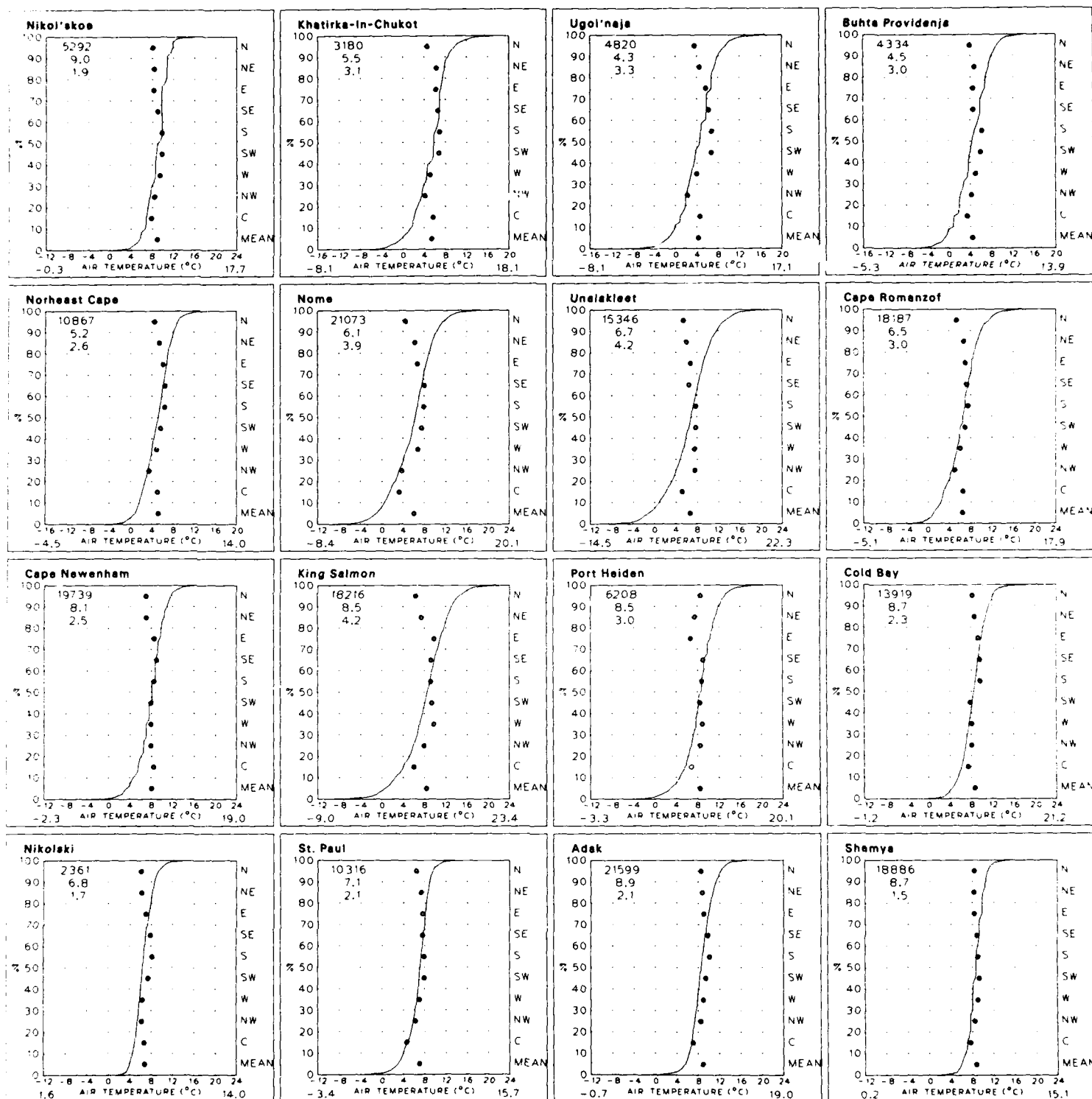


August

8 Air Temperature and Wind Direction

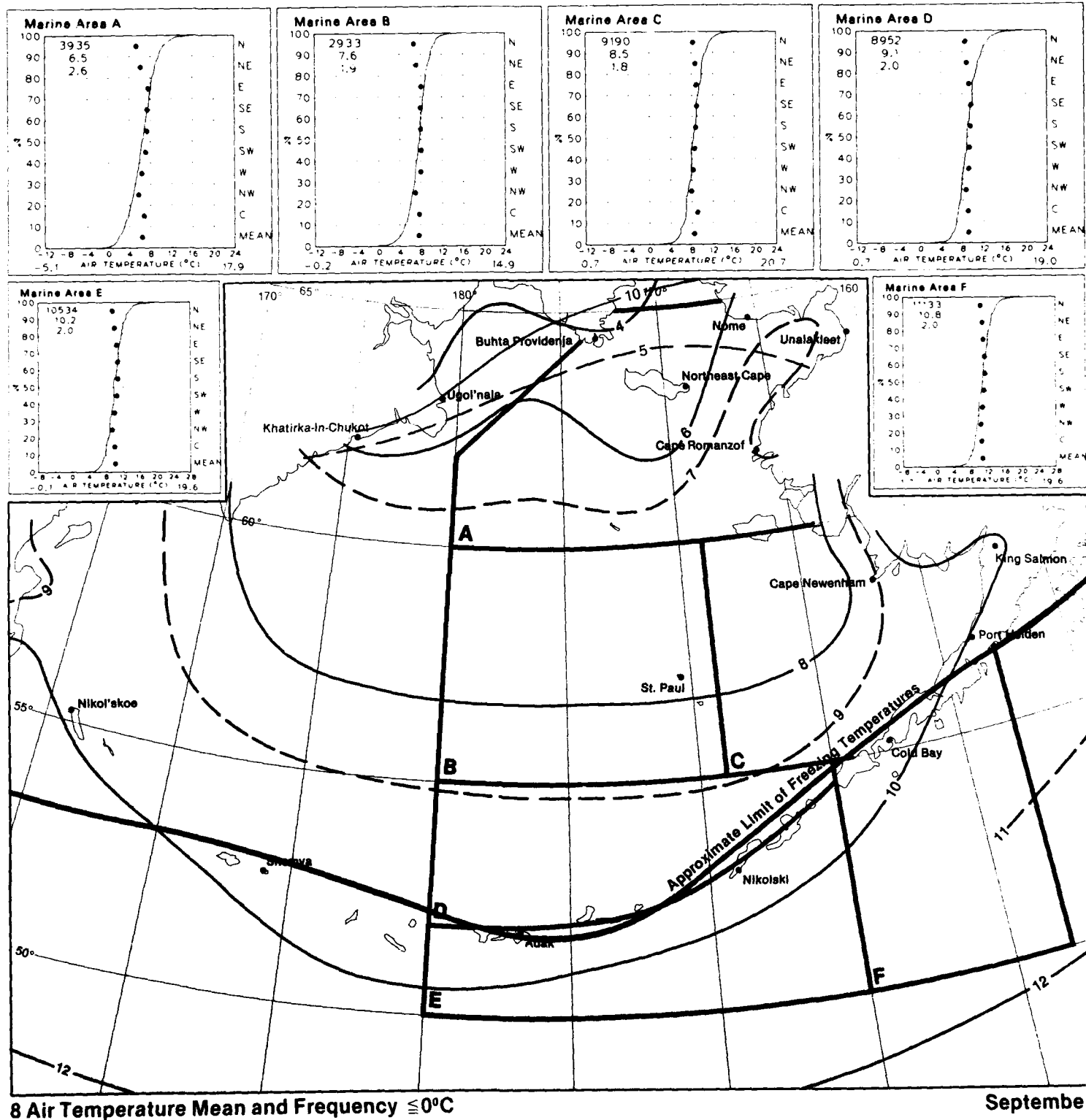


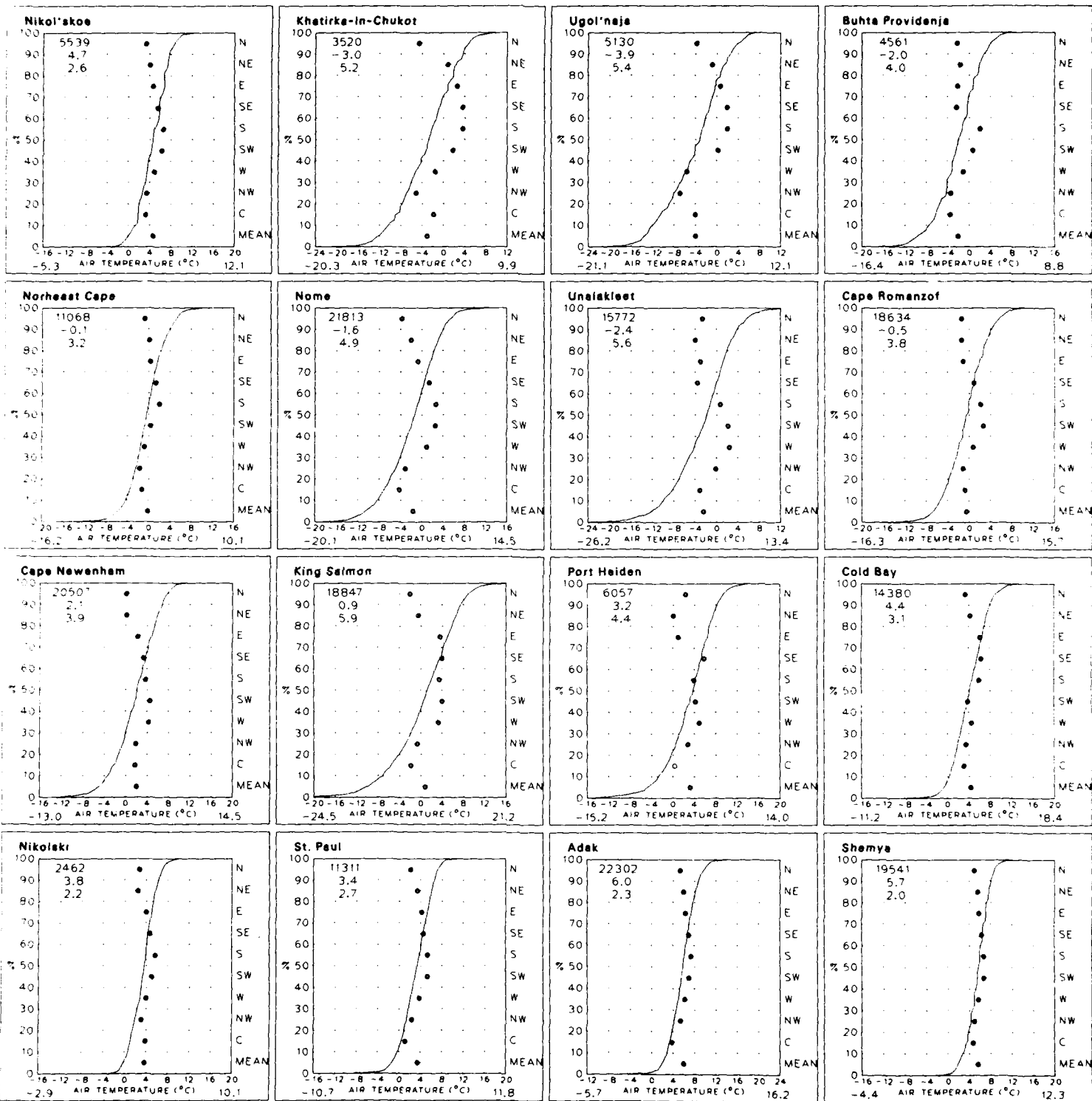




September

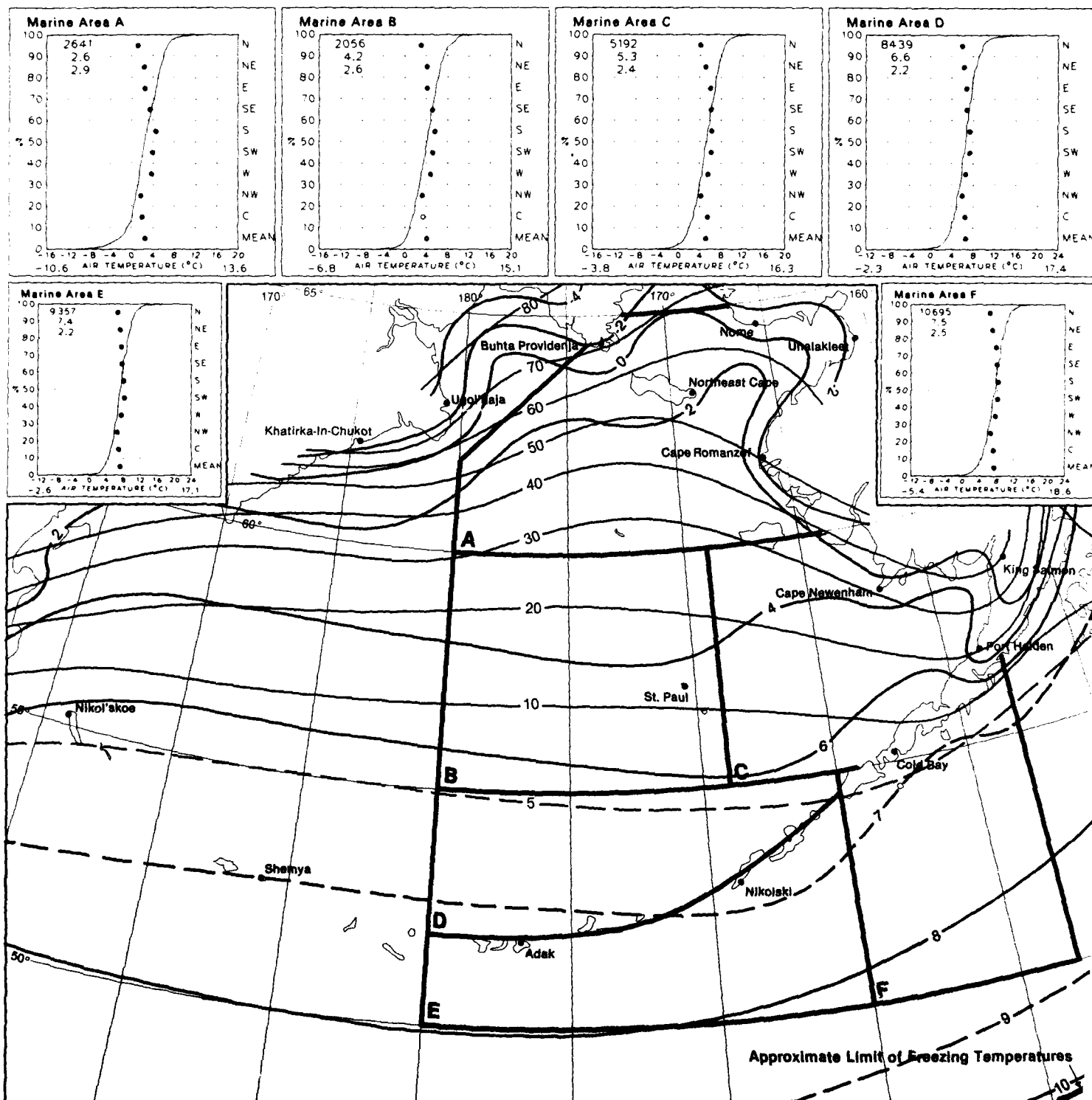
8 Air Temperature and Wind Direction





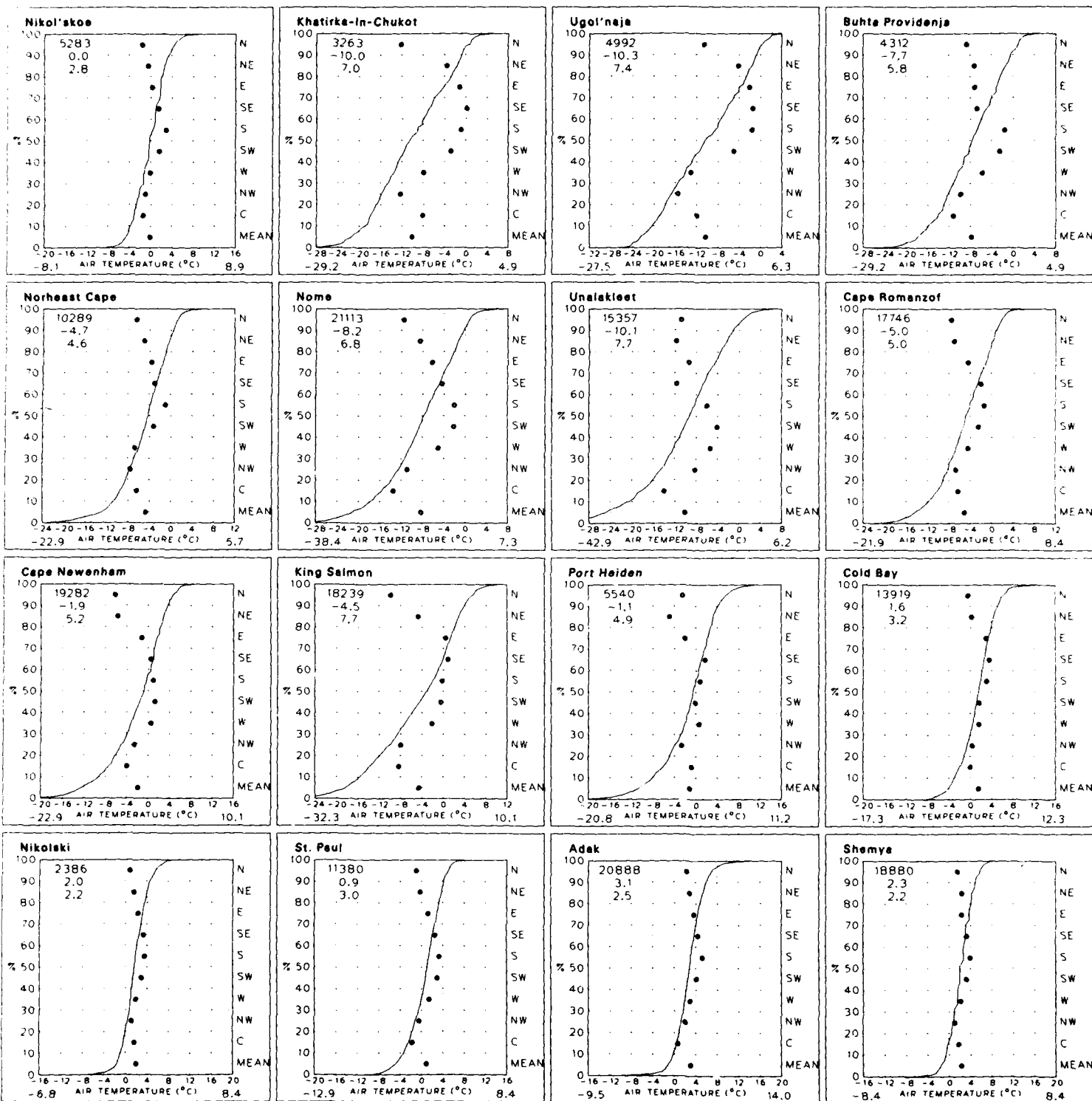
October

8 Air Temperature and Wind Direction



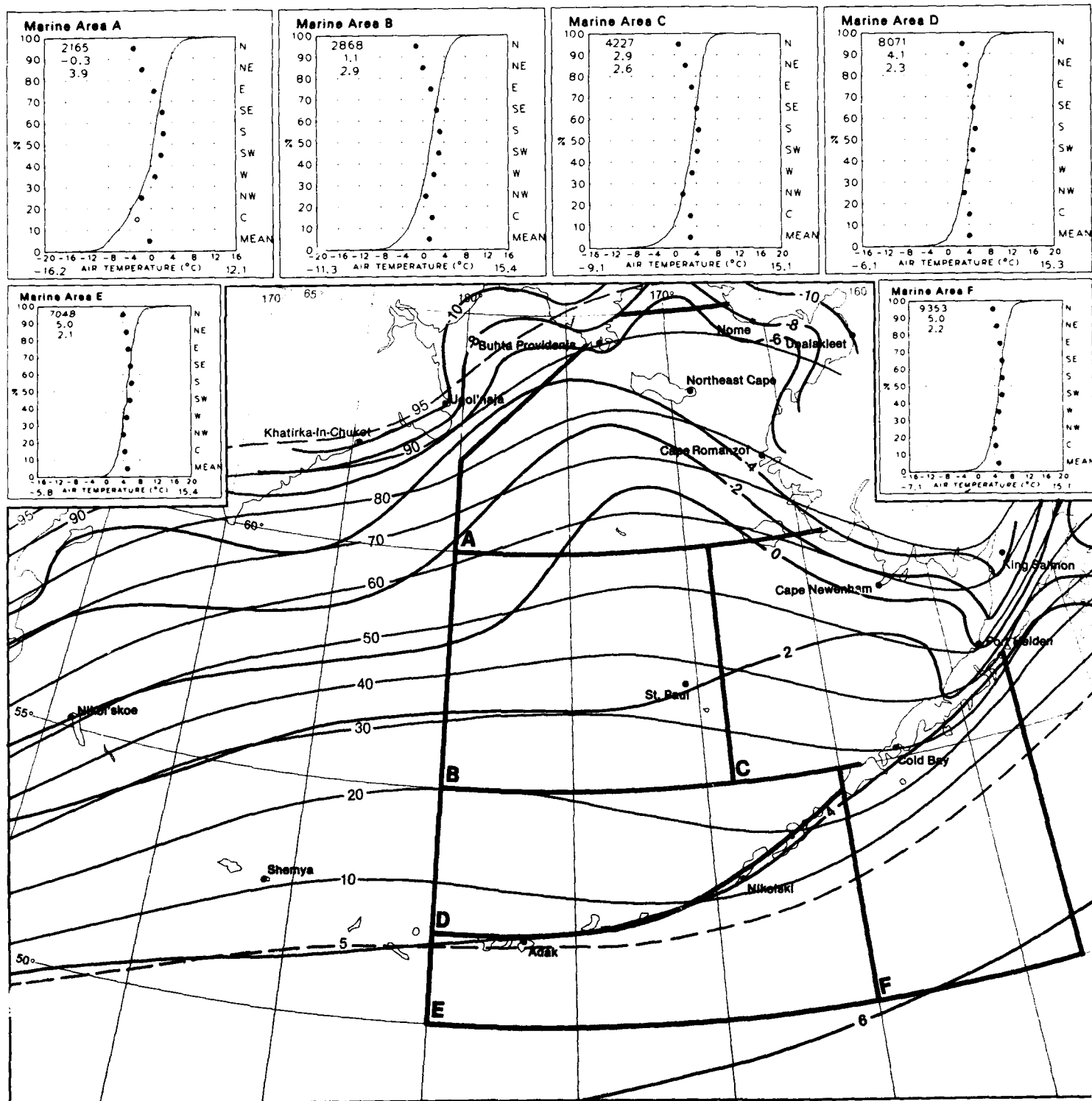
8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$

October

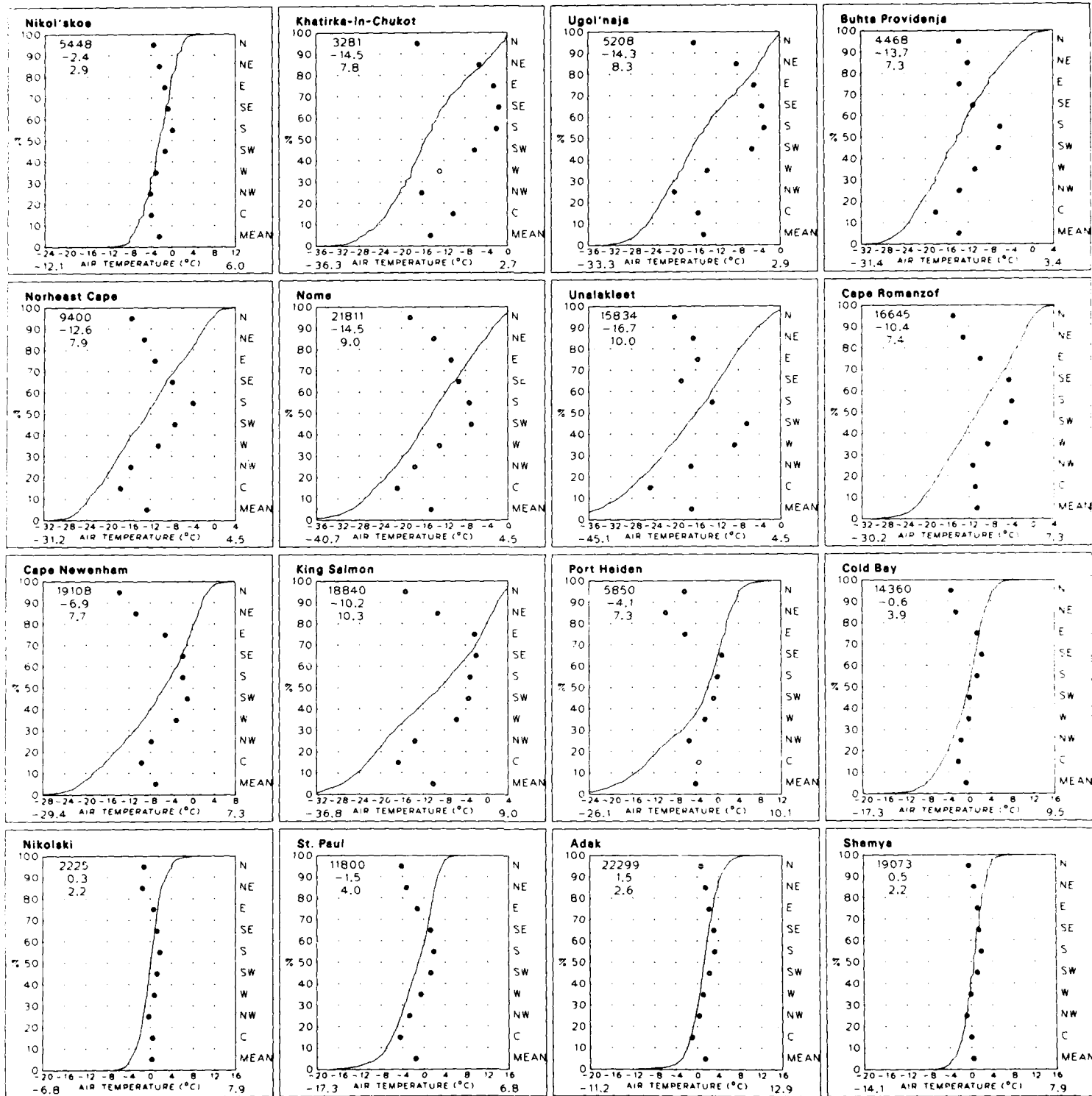


November

8 Air Temperature and Wind Direction

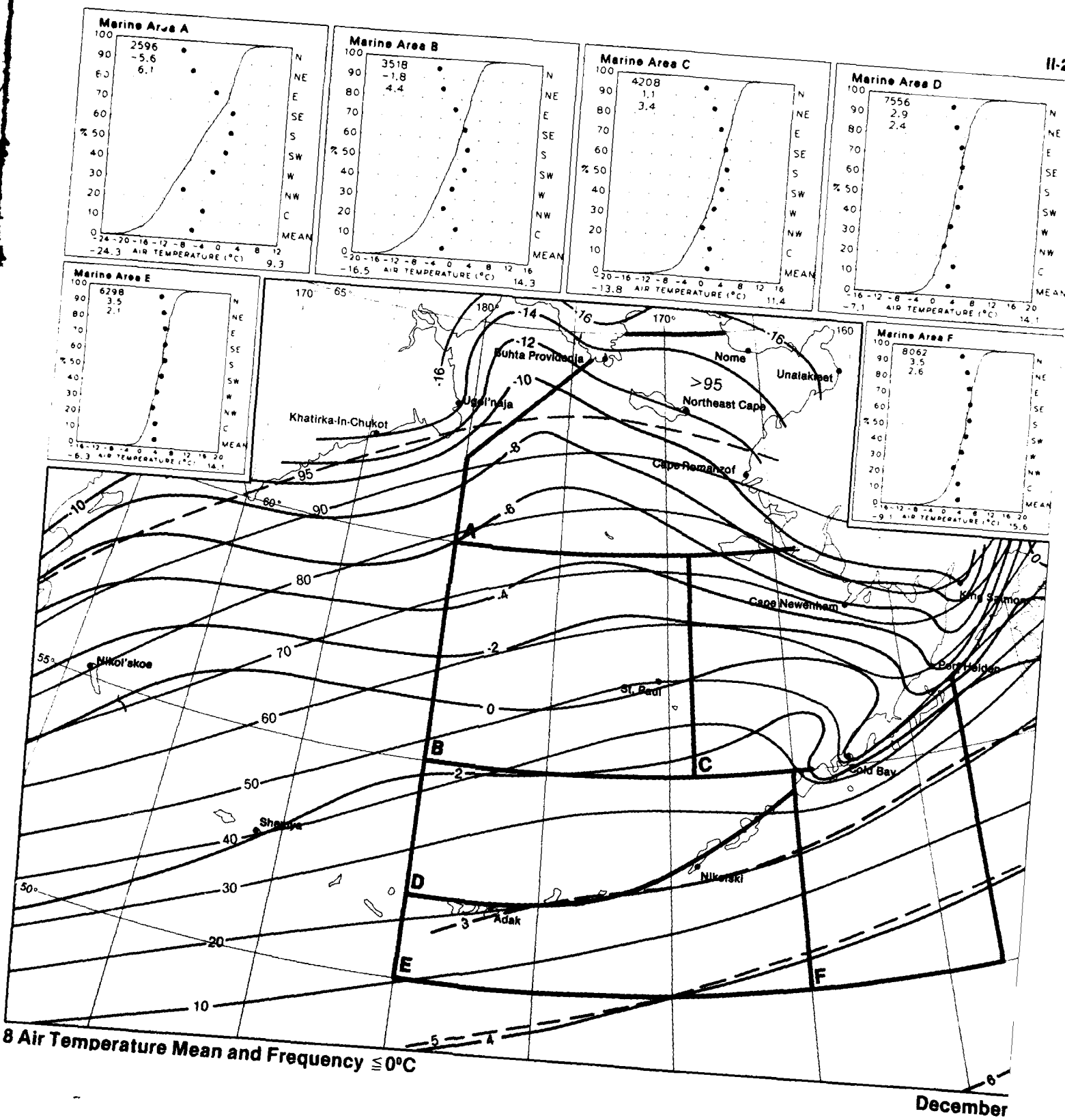
8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$ 

November



December

8 Air Temperature and Wind Direction



8 Air Temperature Mean and Frequency  $\leq 0^{\circ}\text{C}$

December



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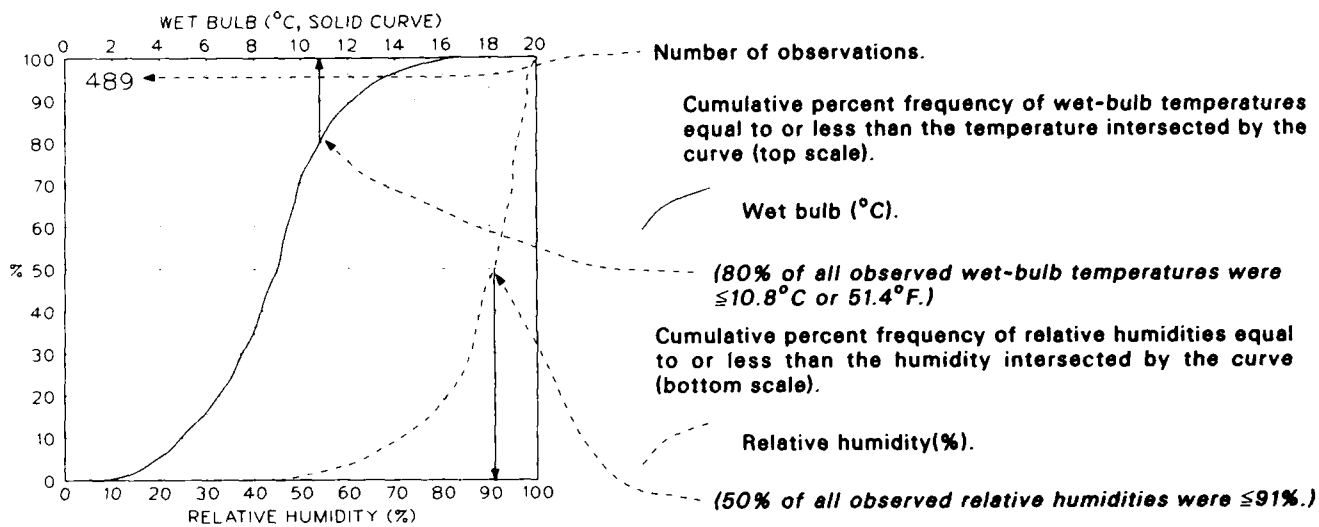
## Map 9. Dew point temperature extremes ( $^{\circ}\text{C}$ )

BLACK LINE – Maximum (99%) dew point temperature (1% of temperatures were greater than the given value).

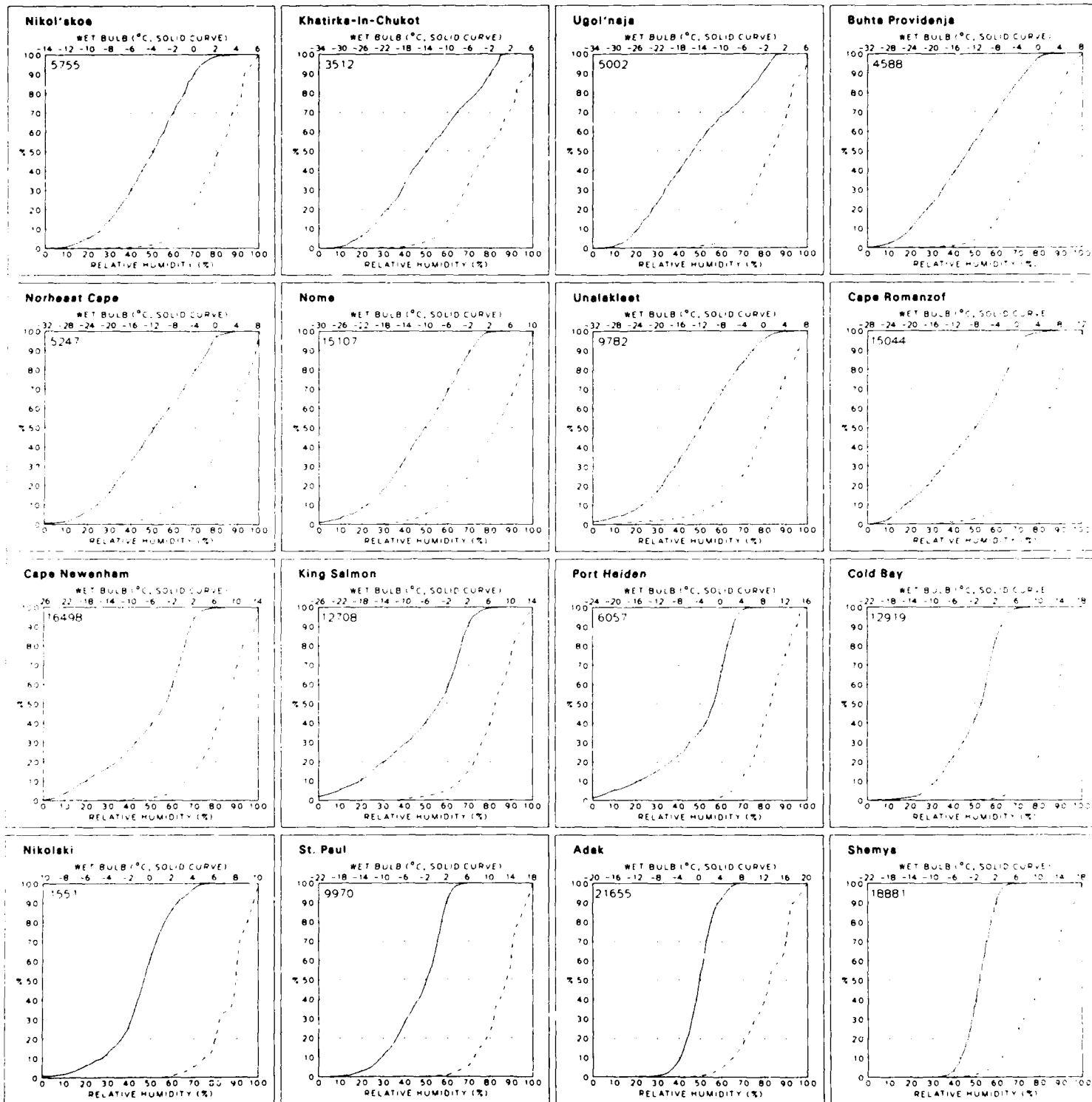
BLUE LINE – Minimum (1%) dew point temperature (1% of temperatures were equal to or less than the given value).

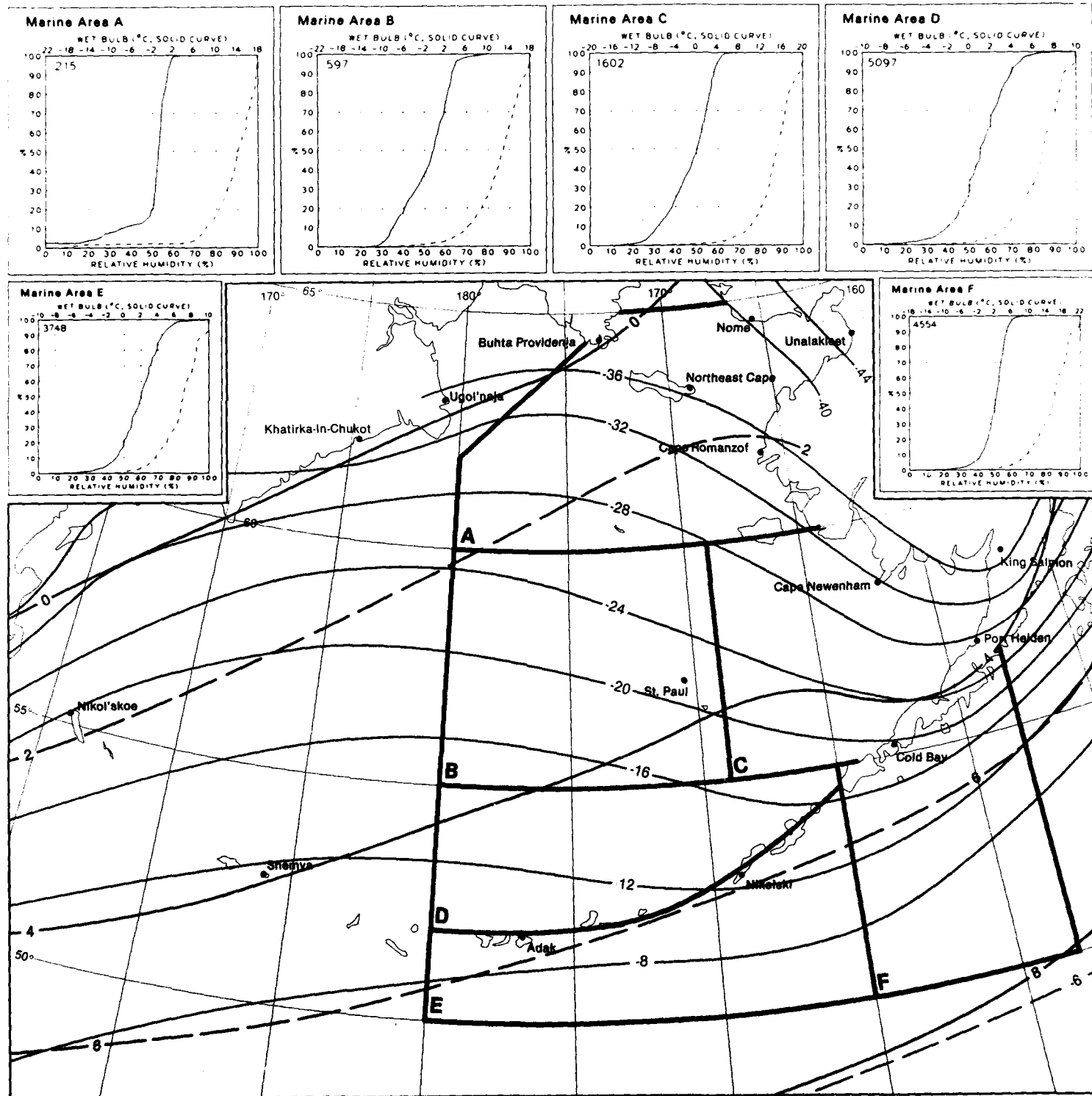
Albers Equal-Area Conic Projection

### Graphs: Wet bulb/relative humidity



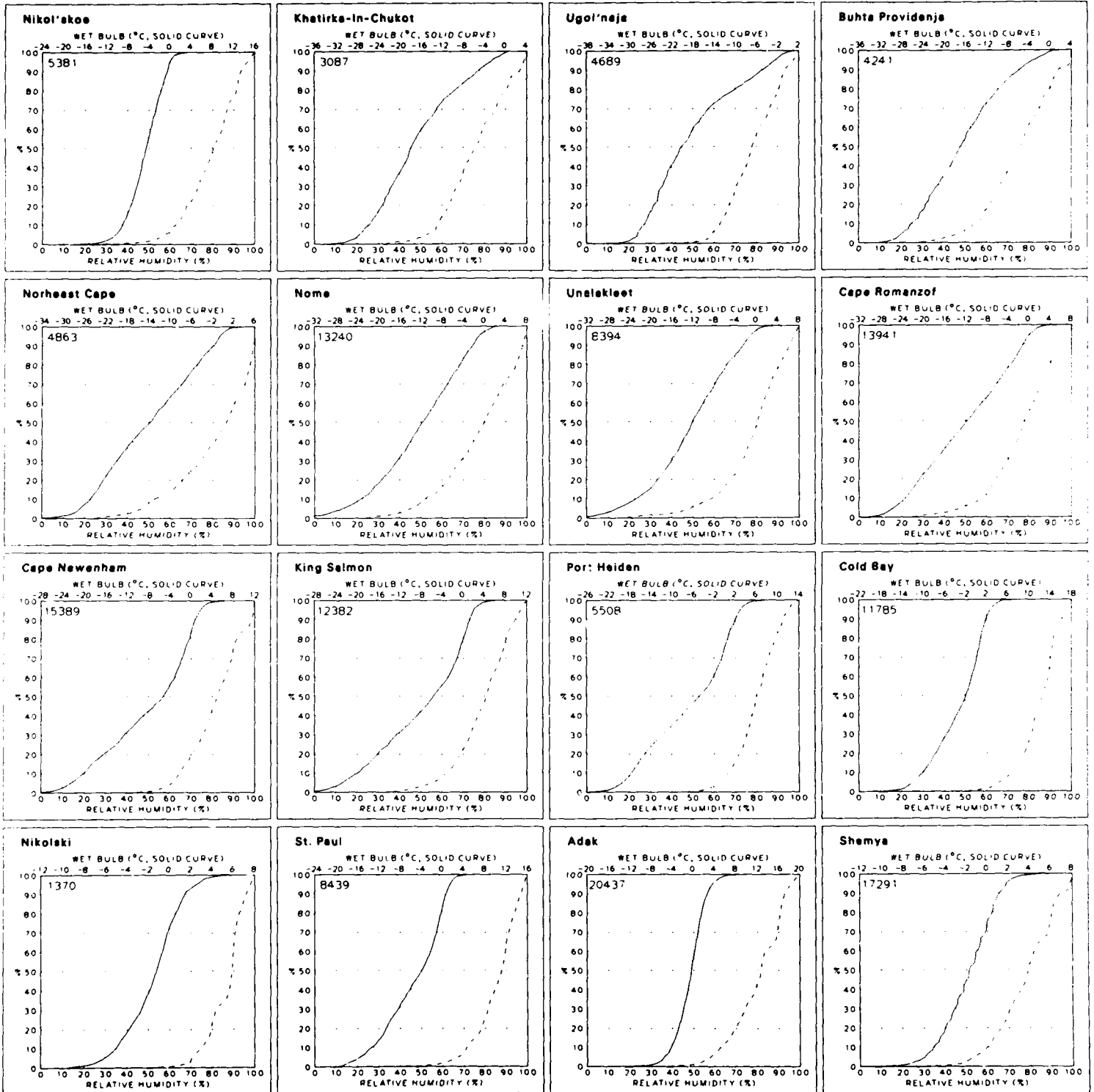
The observation count for the graph reflects those observations containing both dry and wet bulb temperatures; both are required in computing the relative humidity. The percentage of observations of either element greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%.

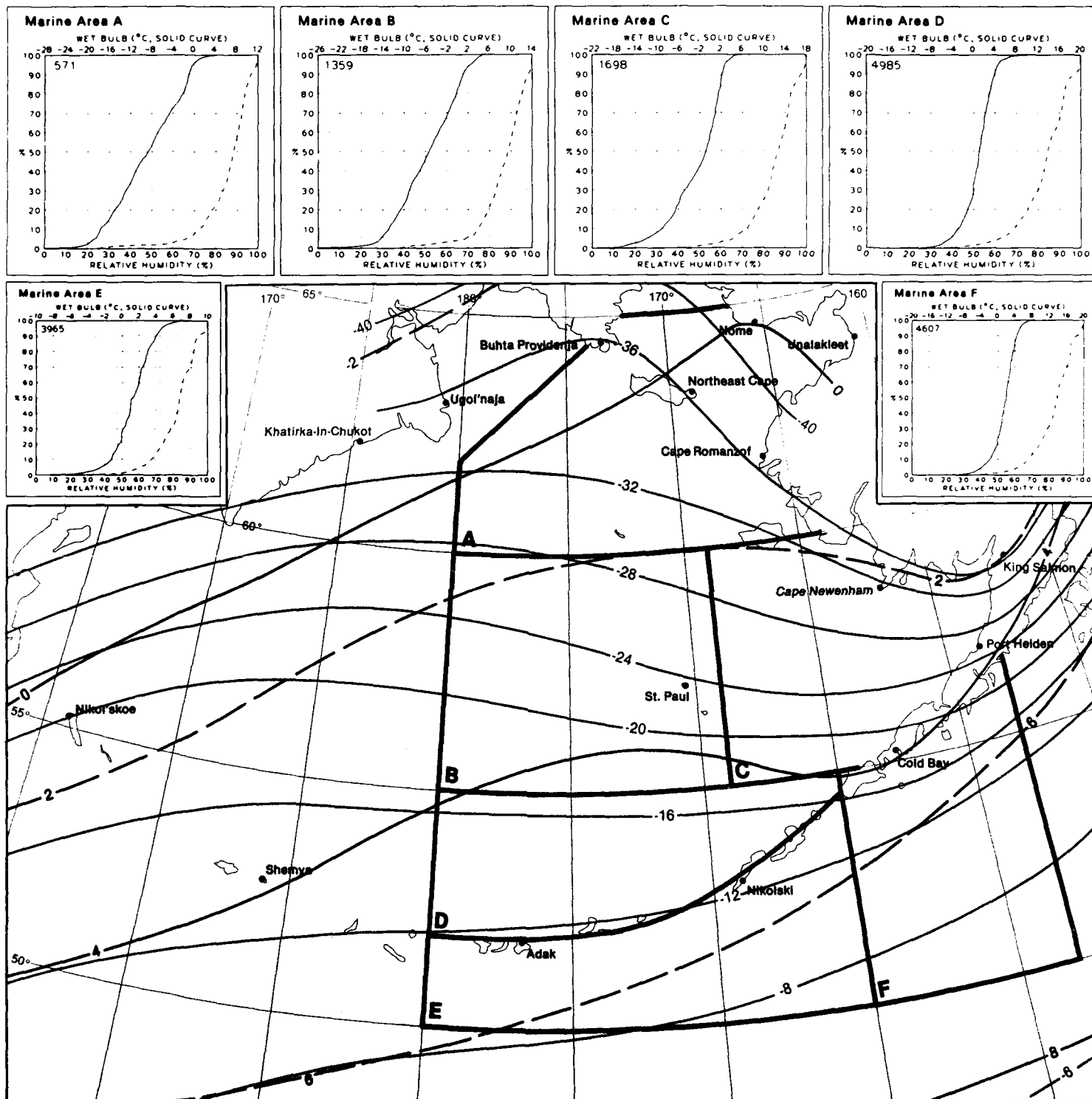




9 Dew Point Temperature Extremes

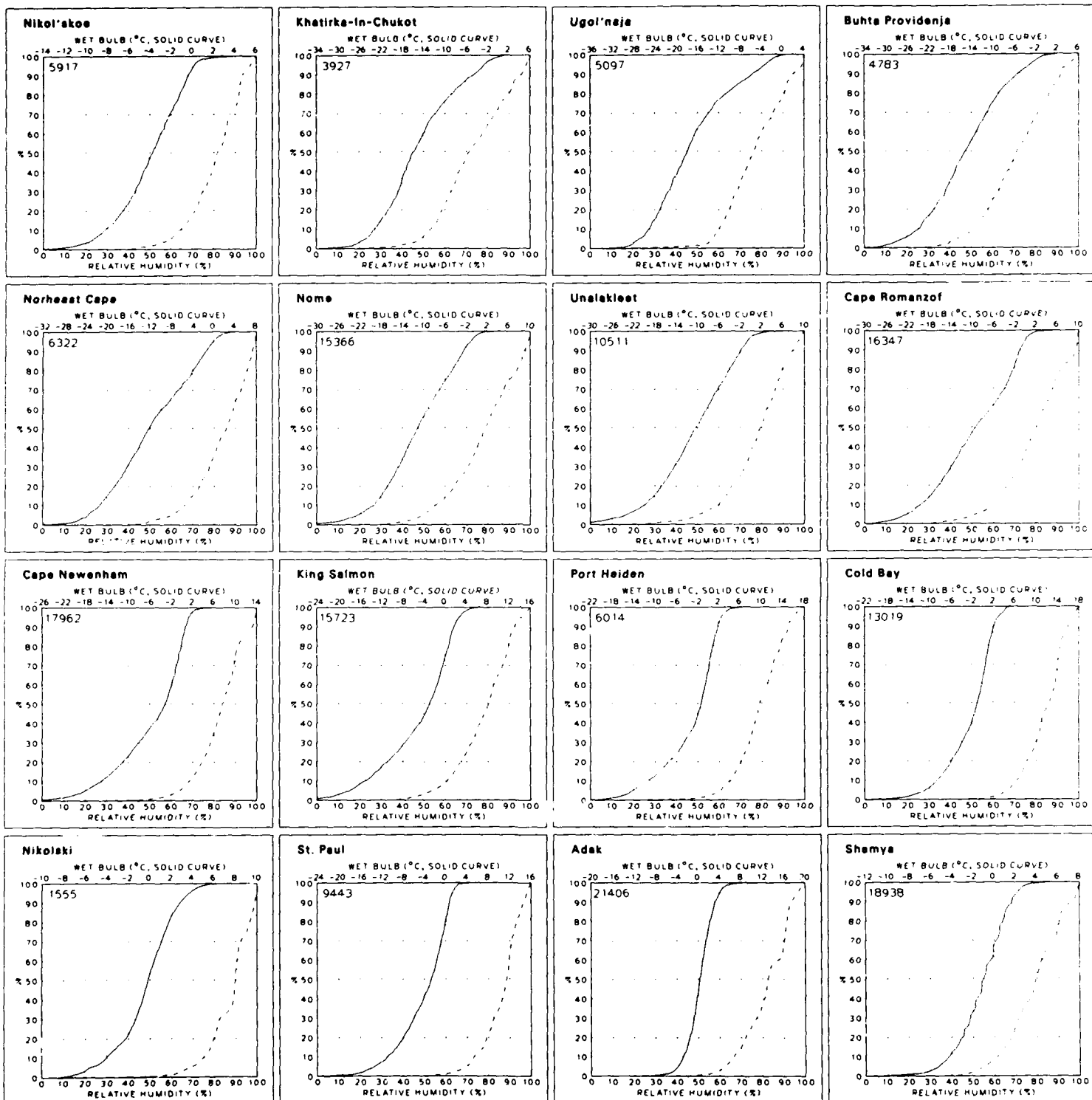
January





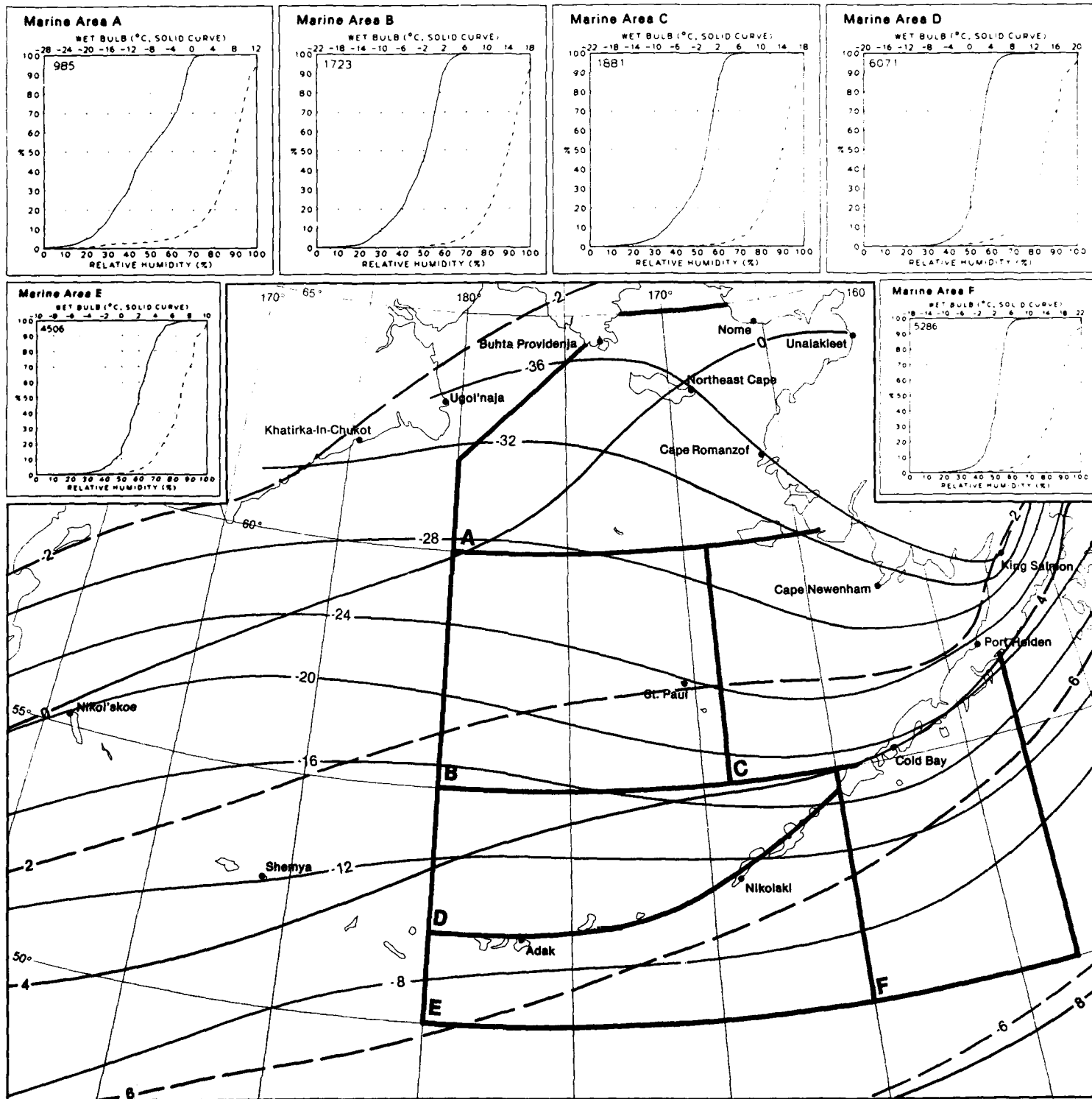
9 Dew Point Temperature Extremes

February



March

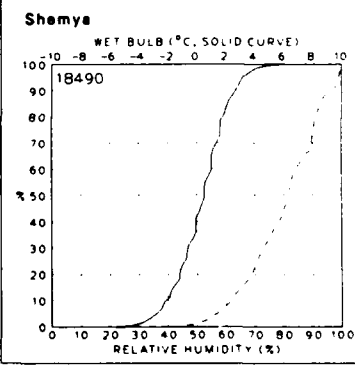
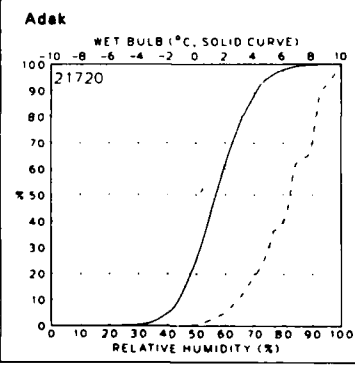
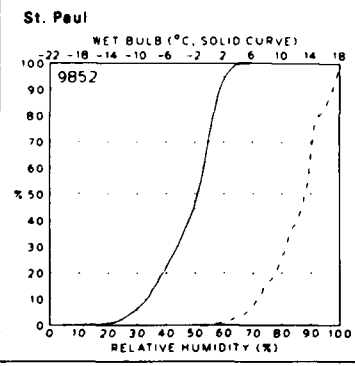
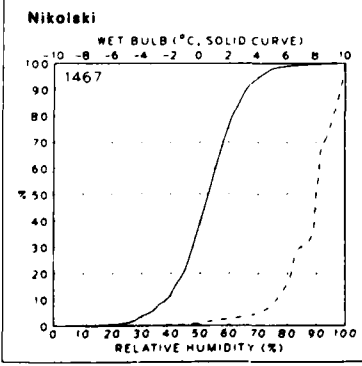
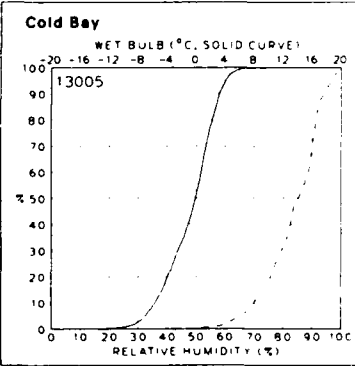
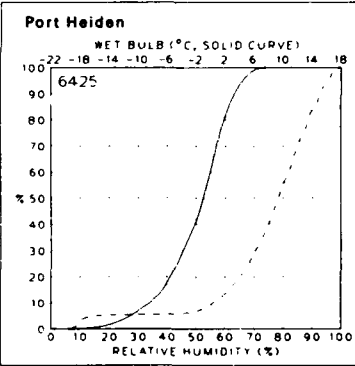
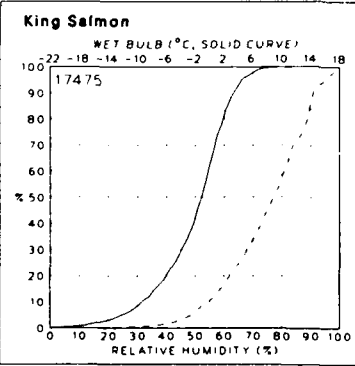
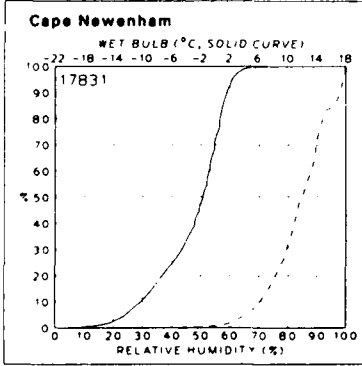
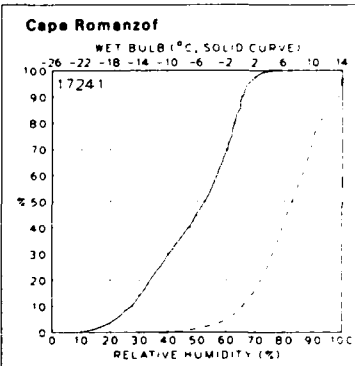
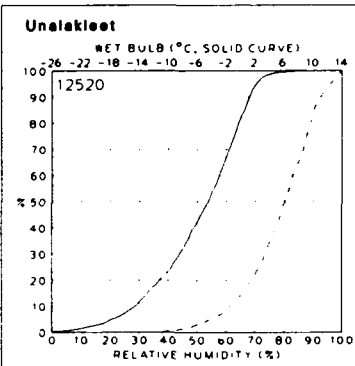
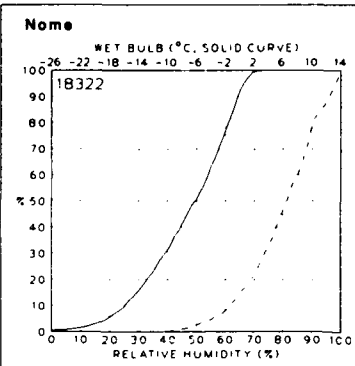
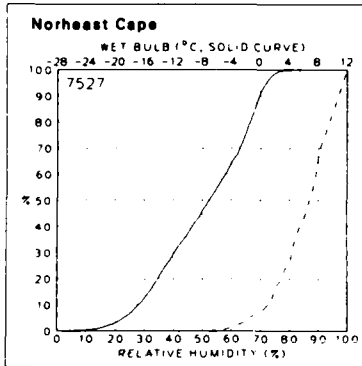
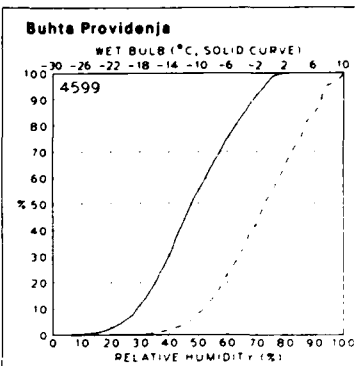
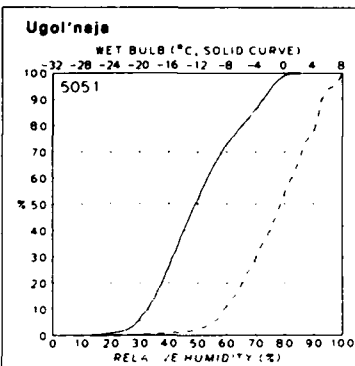
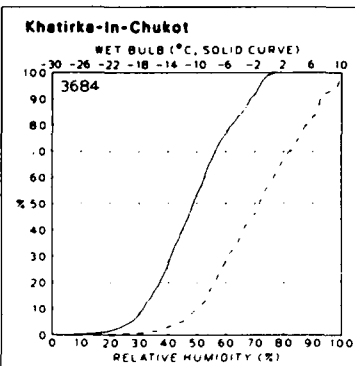
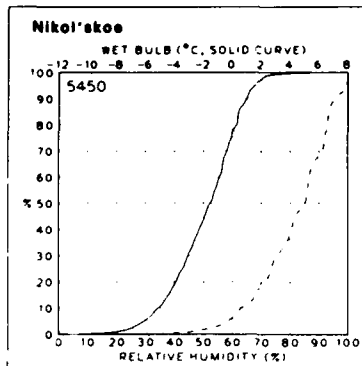
9 Wet Bulb and Relative Humidity

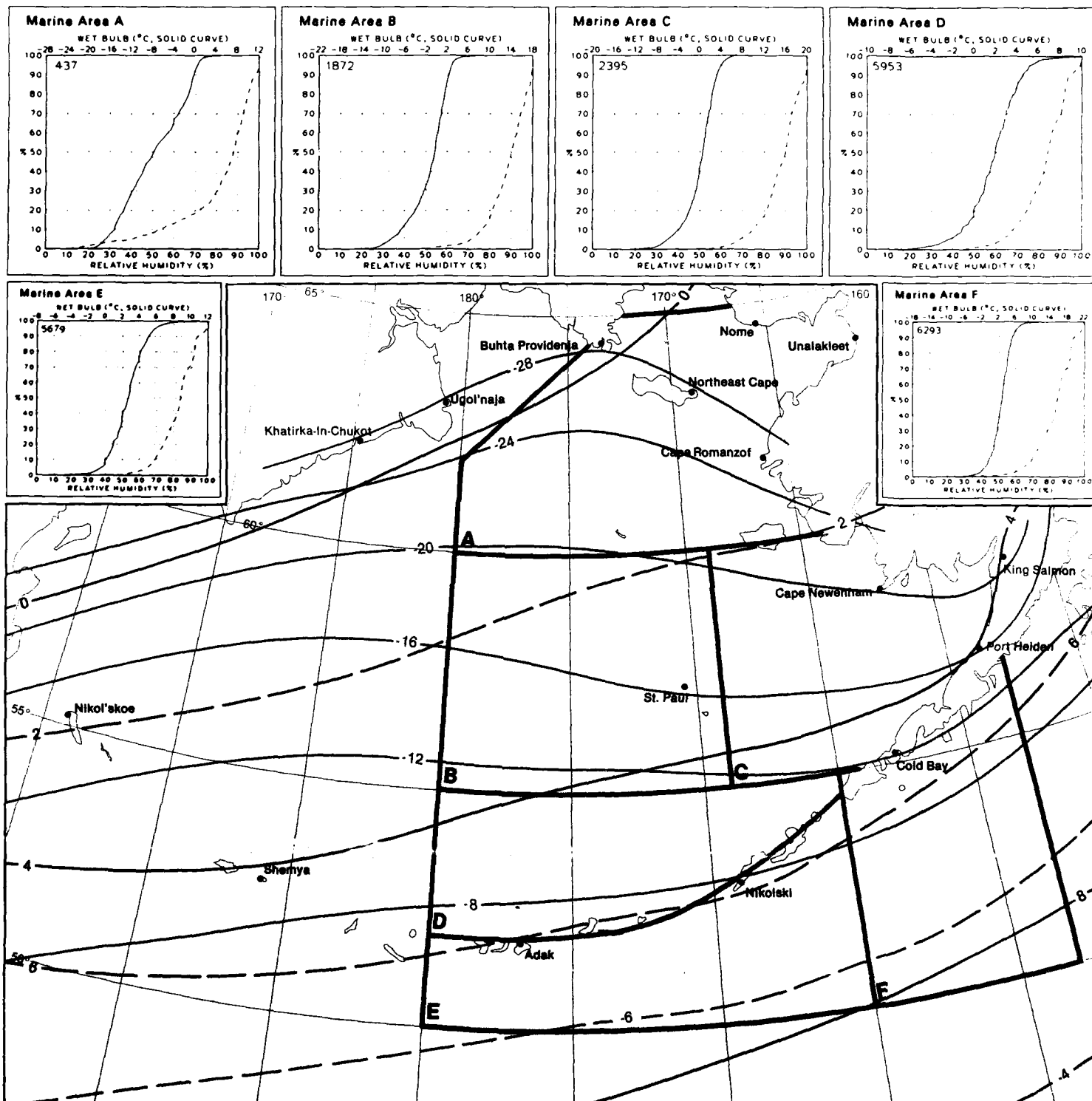


9 Dew Point Temperature Extremes

March

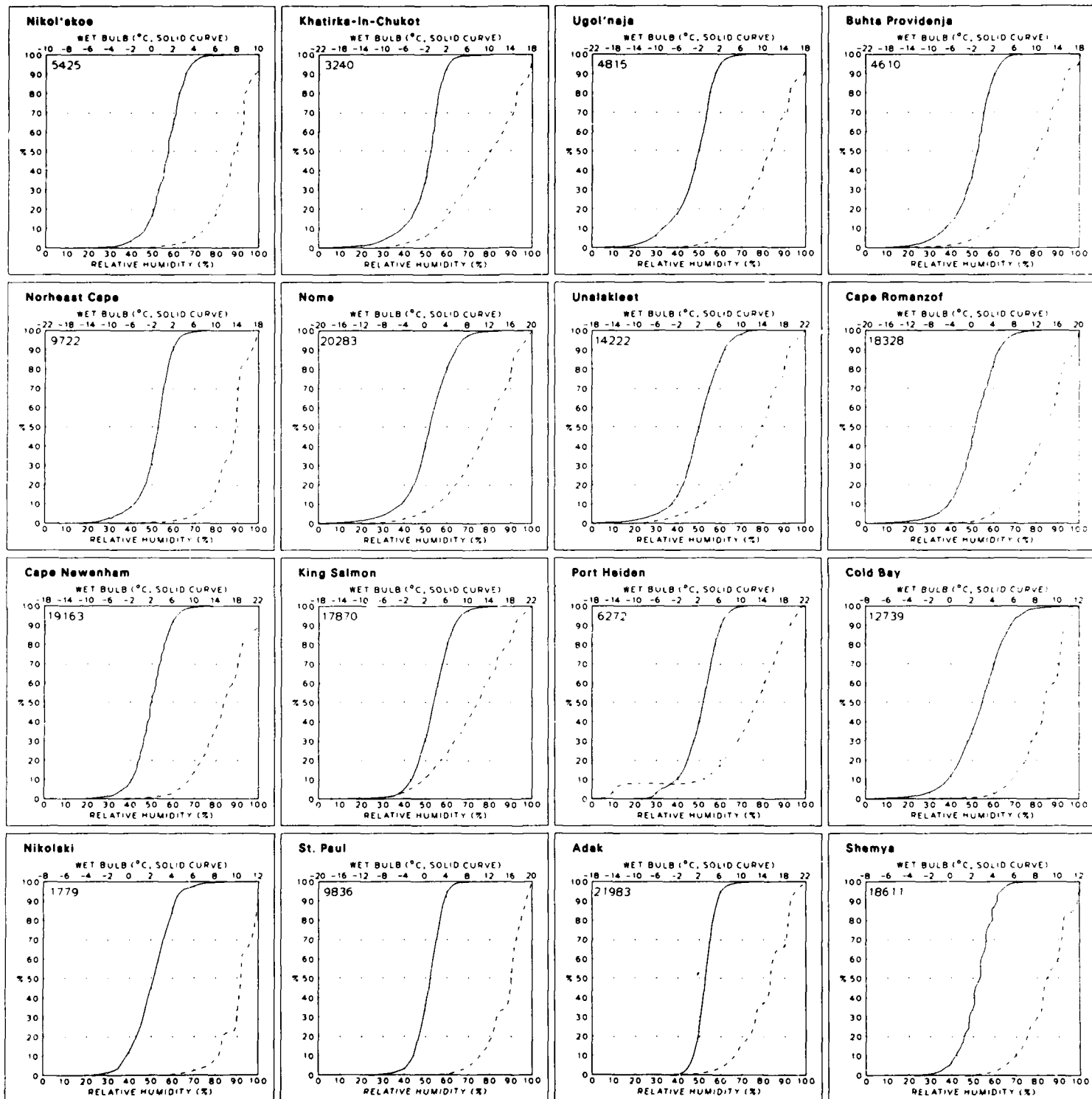






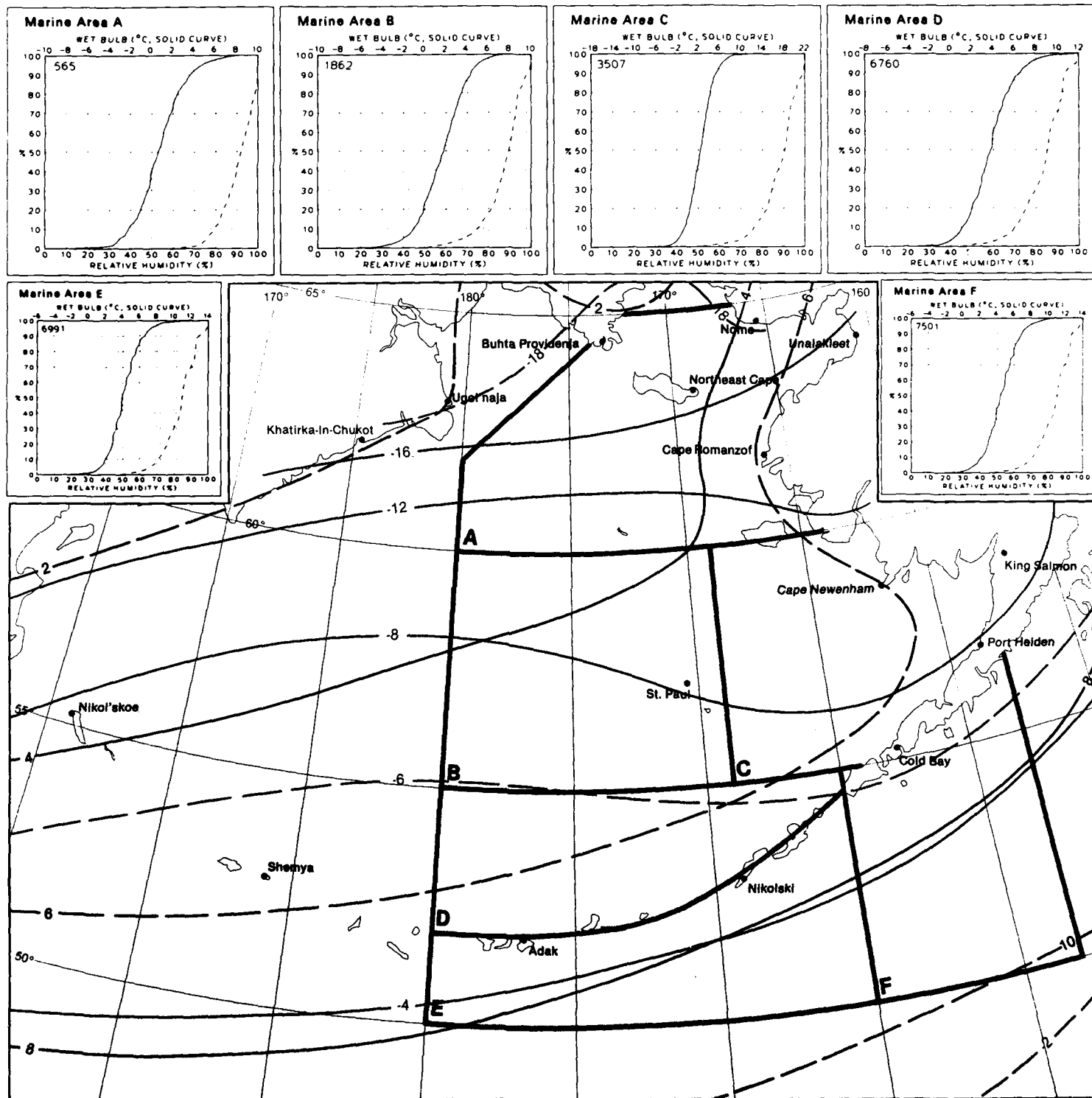
9 Dew Point Temperature Extremes

April



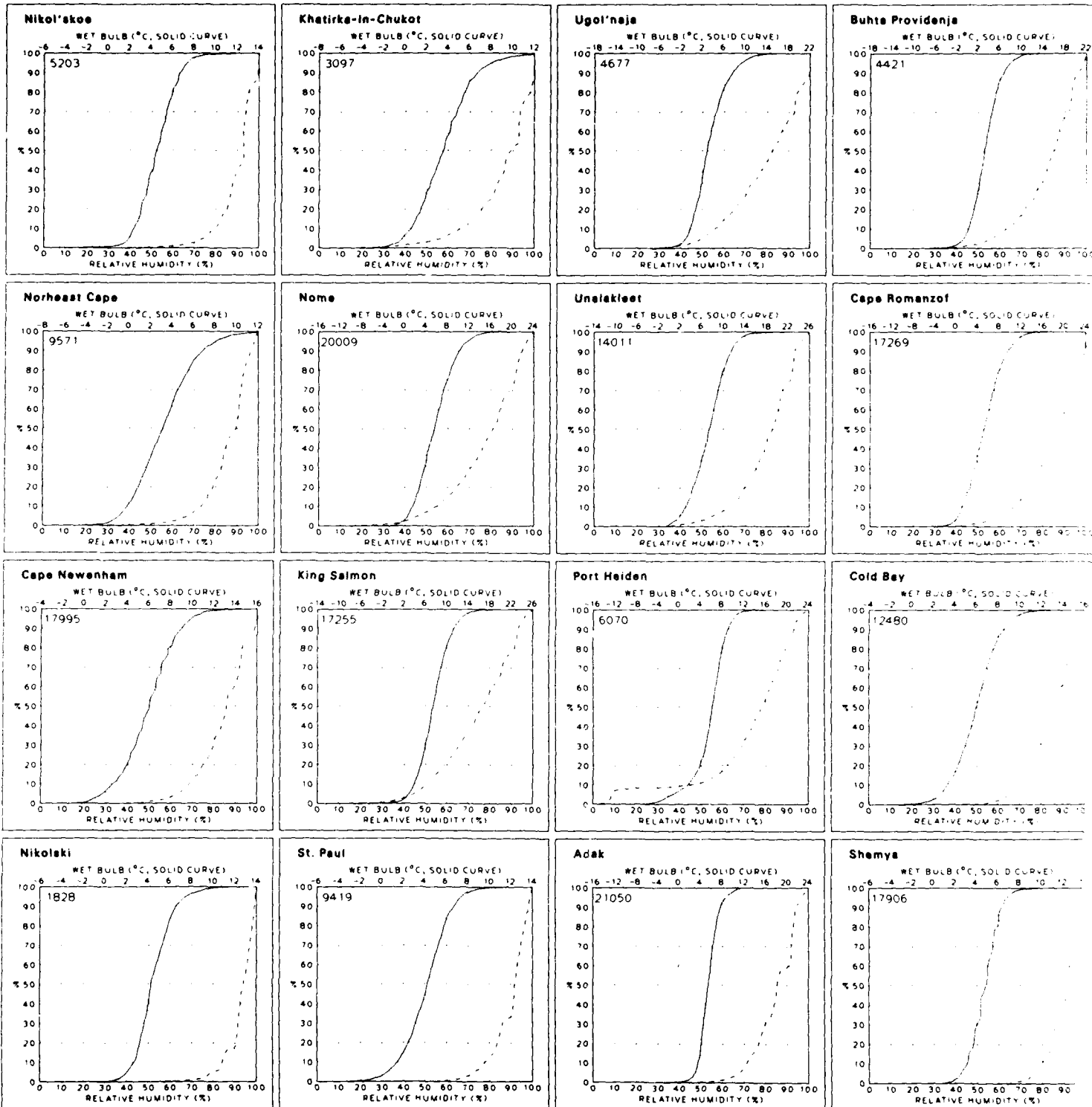
May

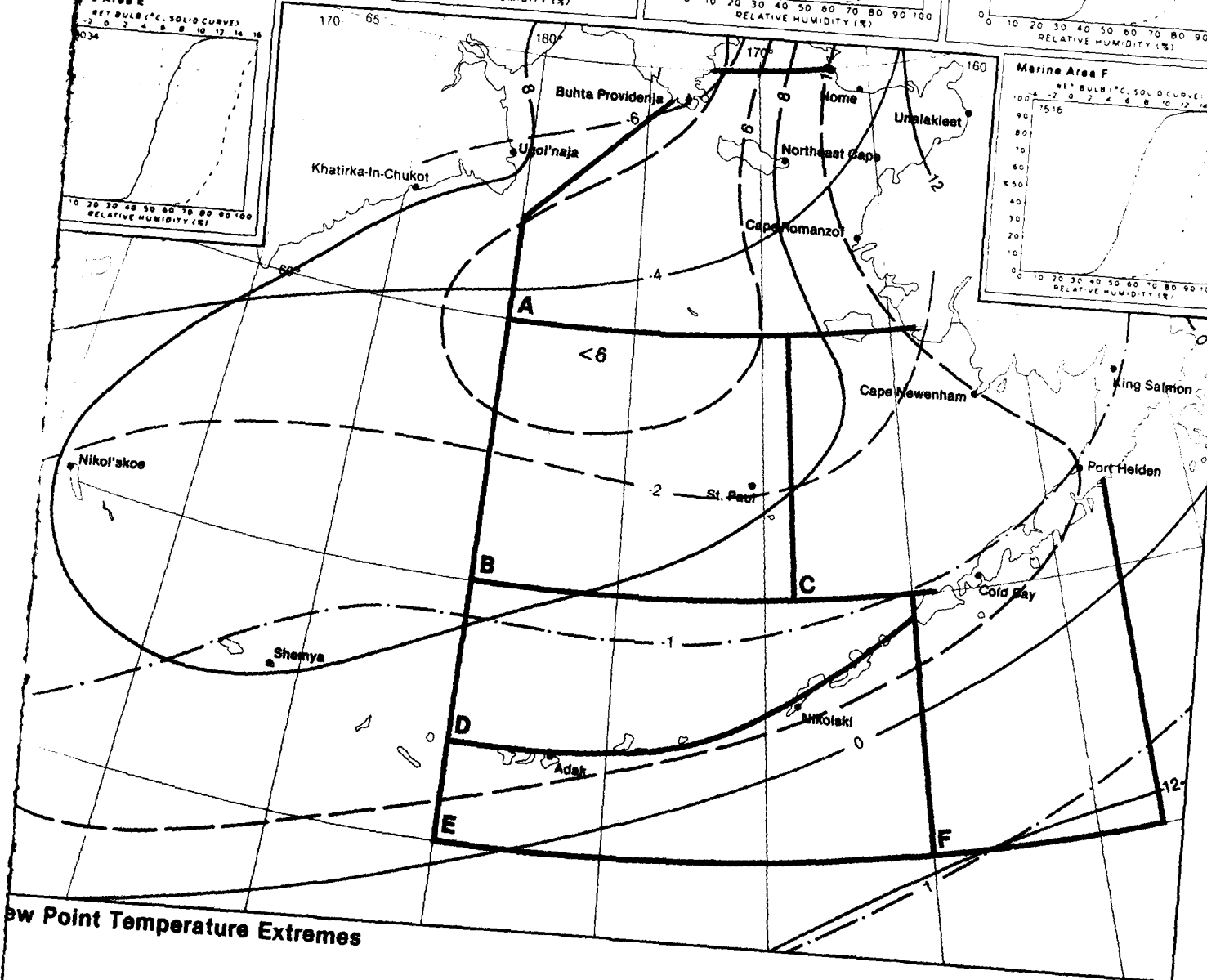
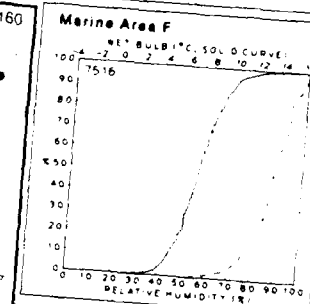
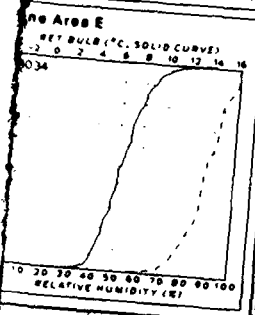
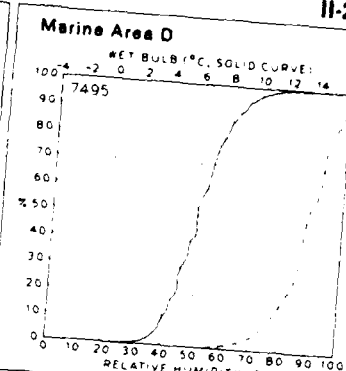
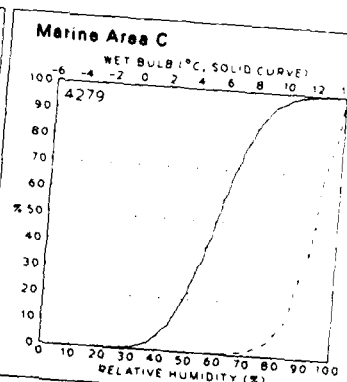
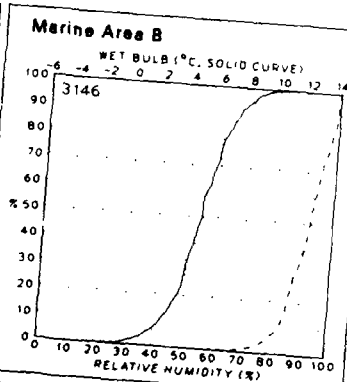
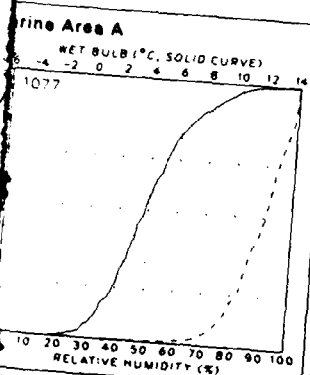
9 Wet Bulb and Relative Humidity



9 Dew Point Temperature Extremes

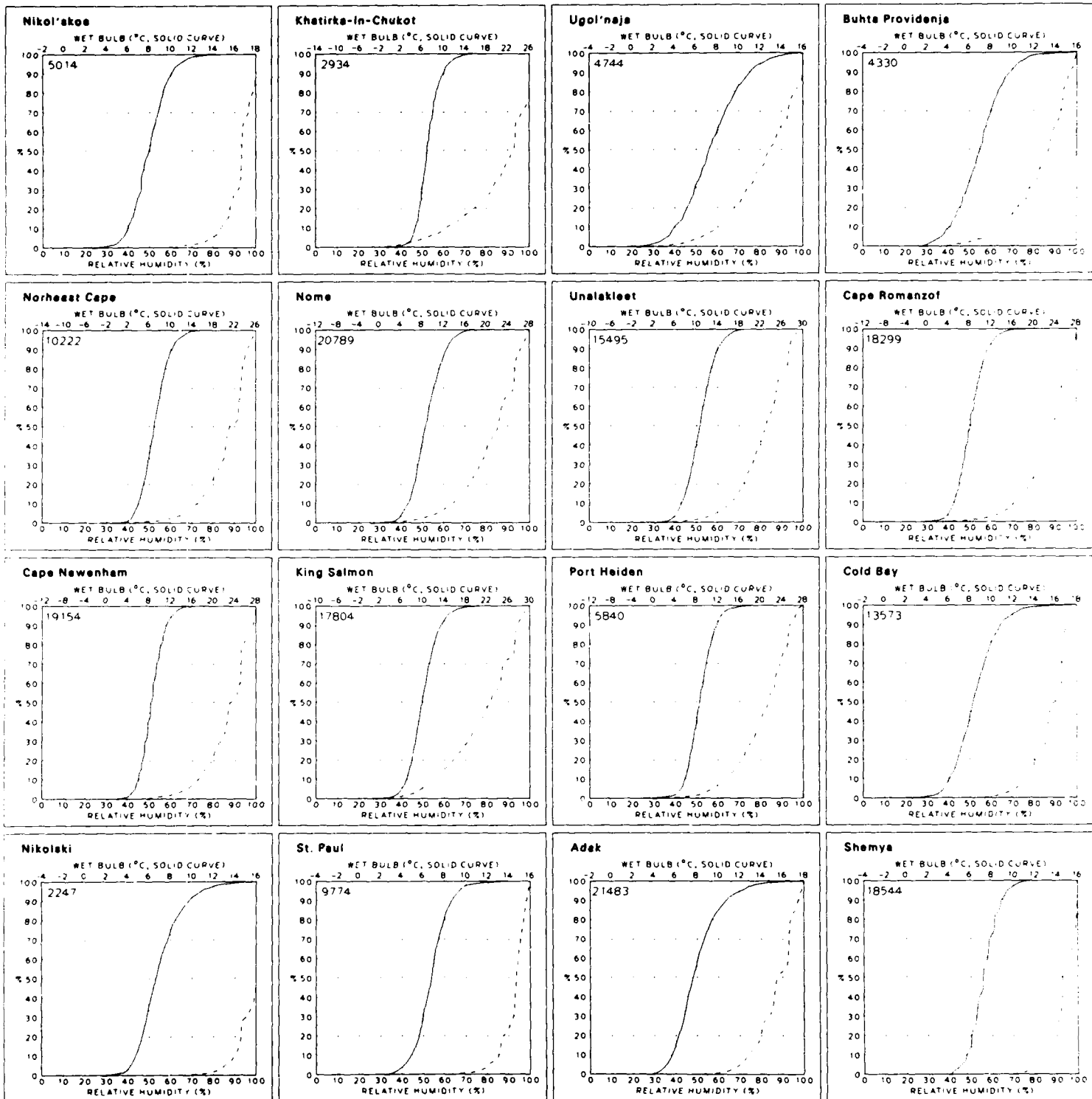
May

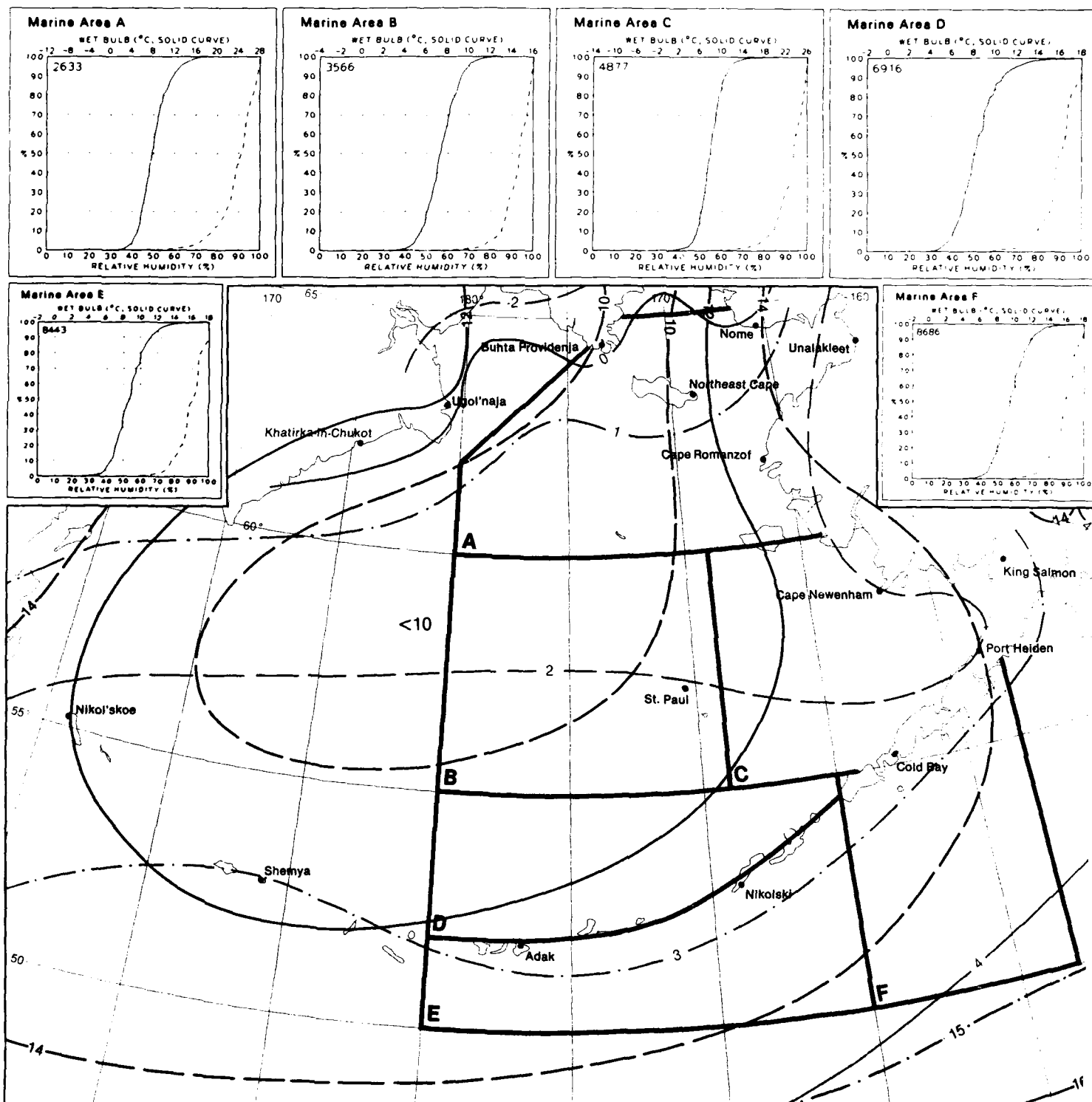




Low Point Temperature Extremes

June

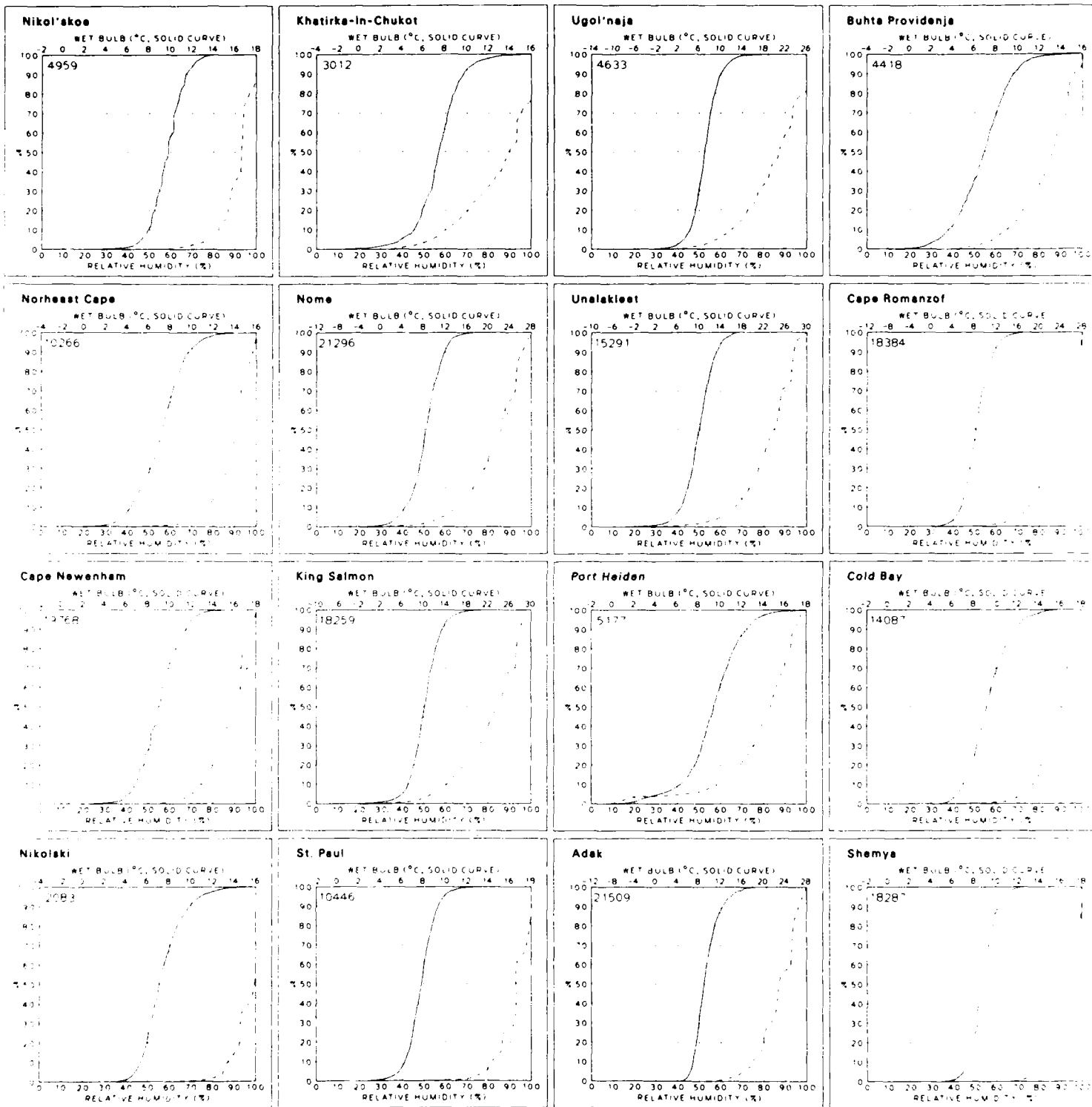




9 Dew Point Temperature Extremes

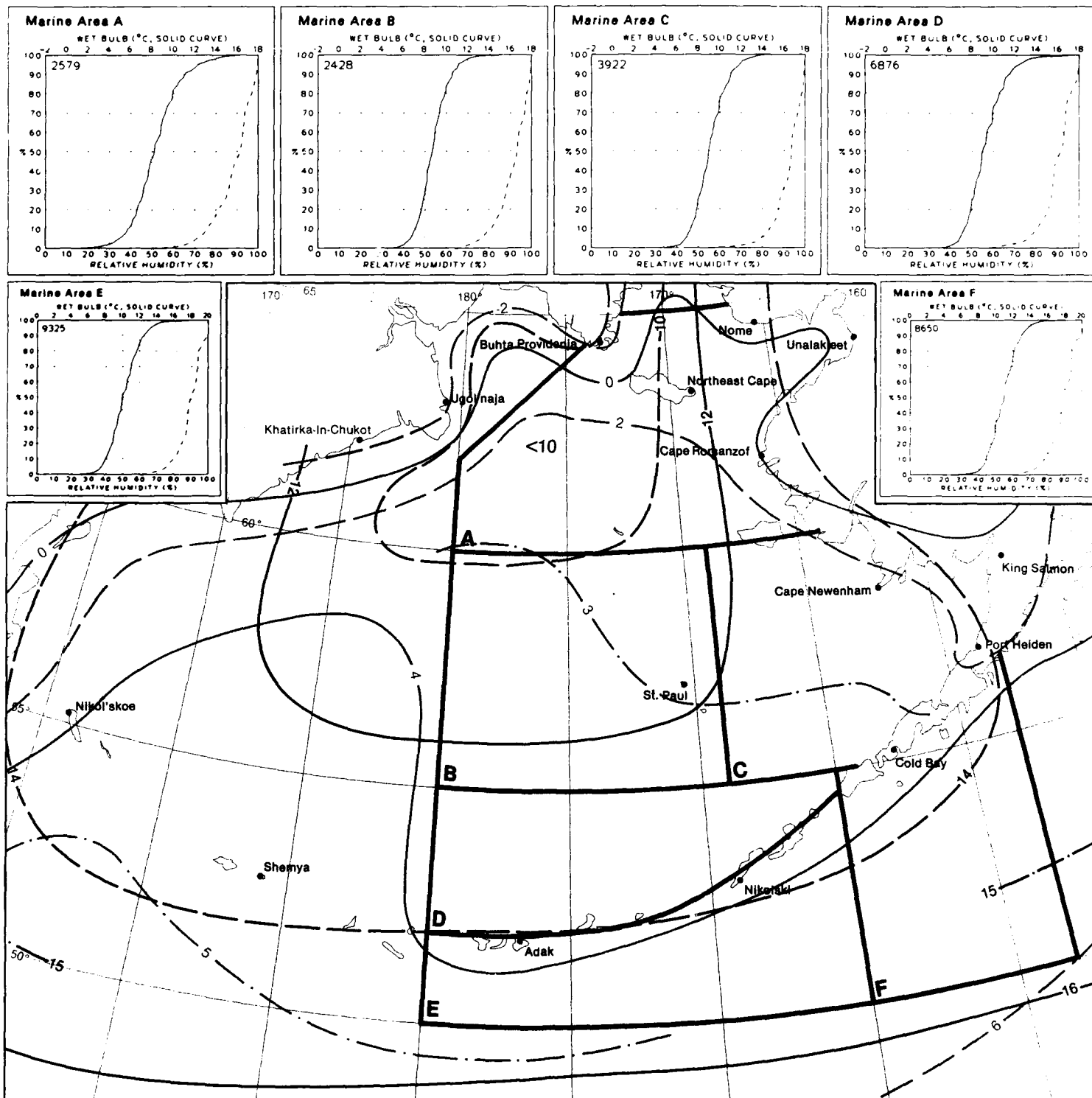
Jul





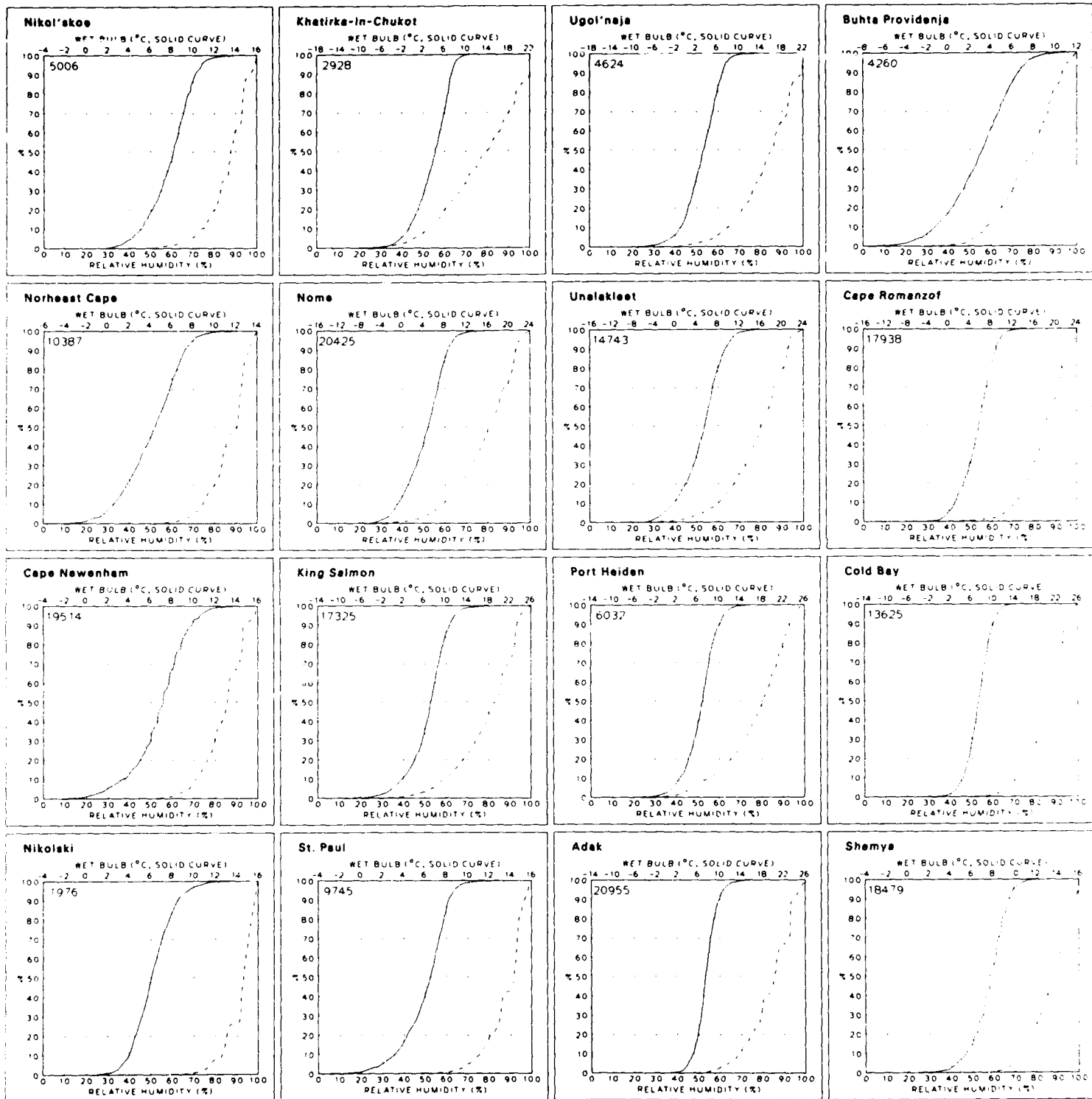
August

9 Wet Bulb and Relative Humidity



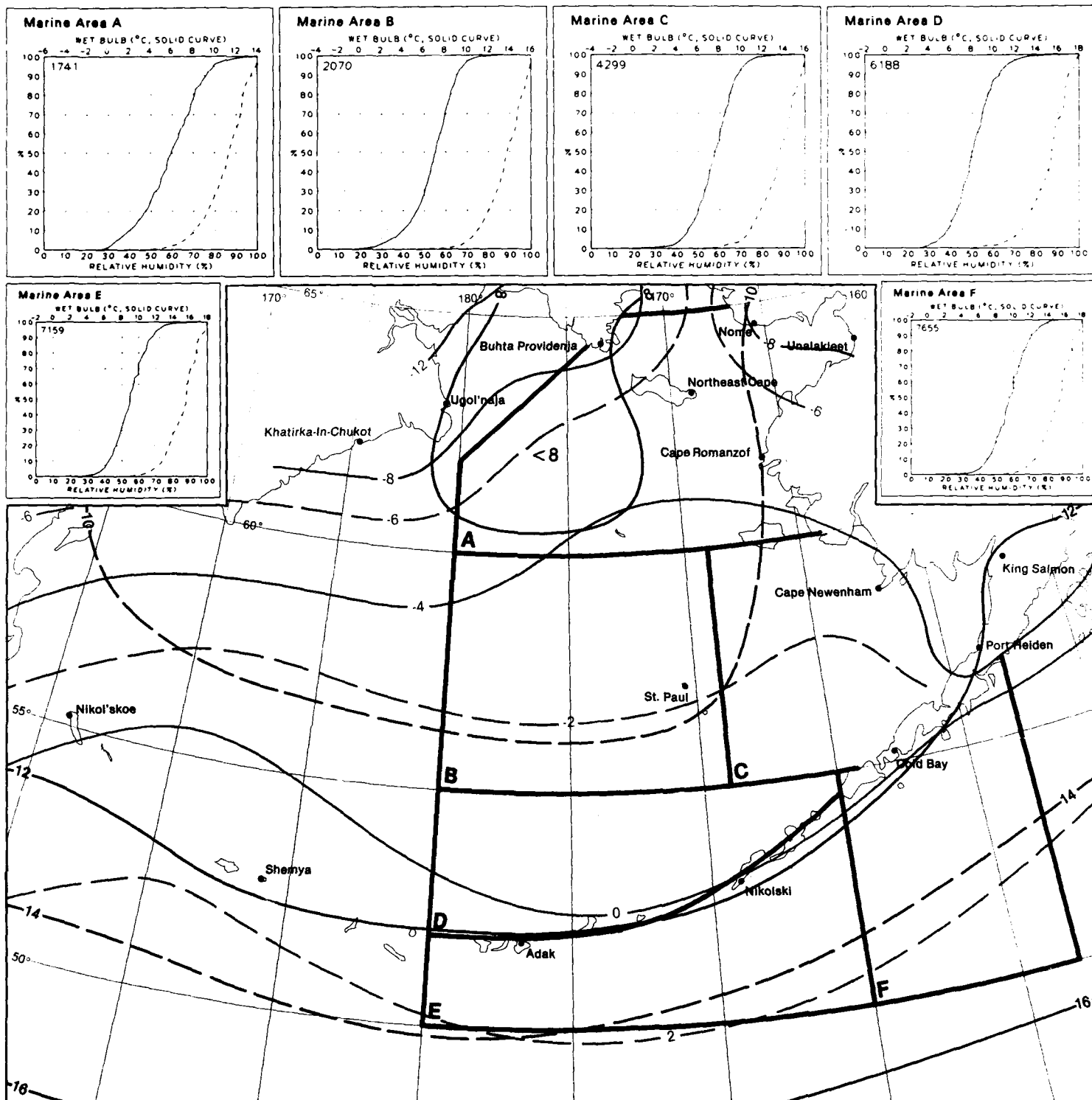
9 Dew Point Temperature Extremes

August



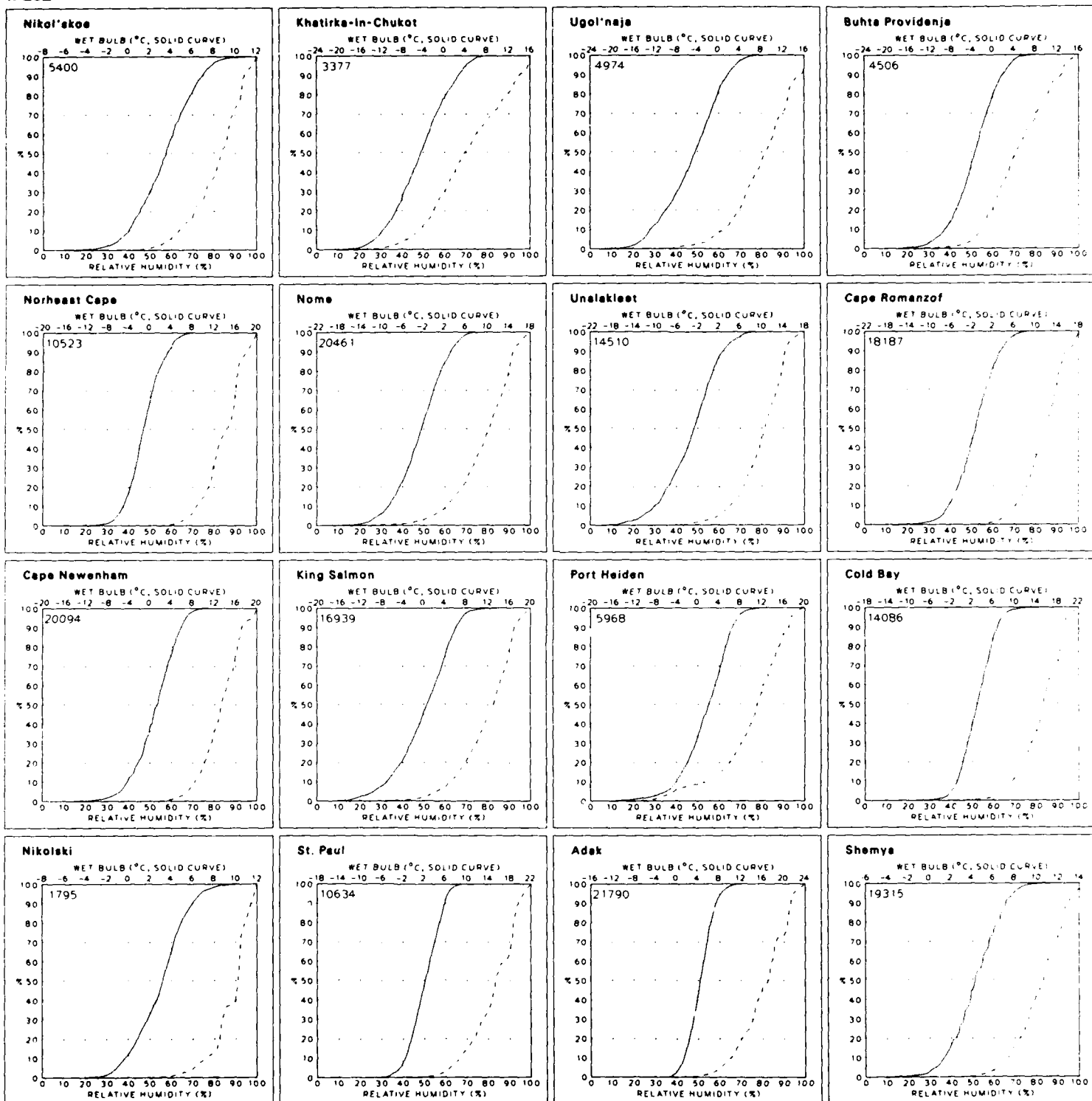
September

9 Wet Bulb and Relative Humidity



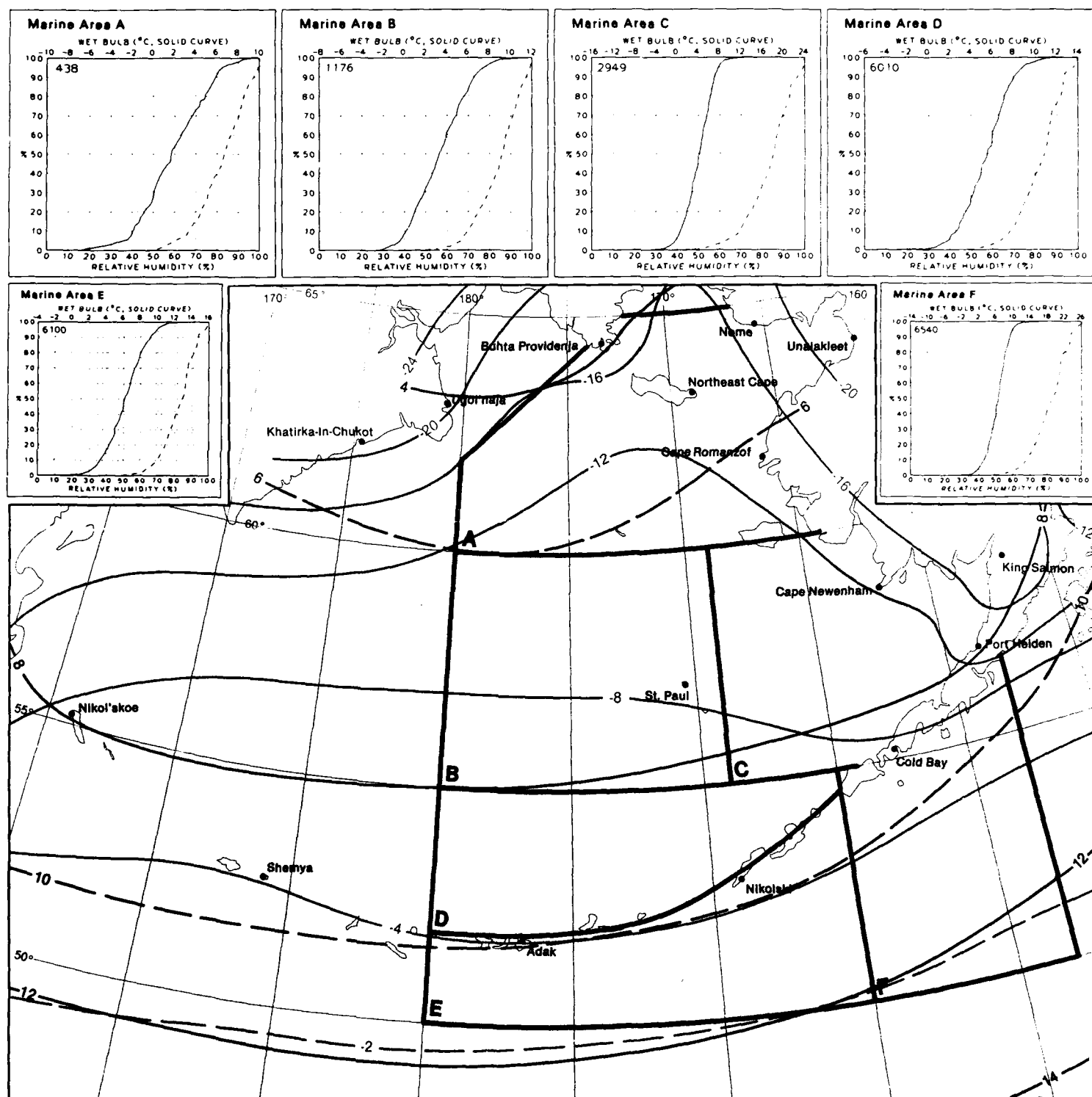
9 Dew Point Temperature Extremes

September



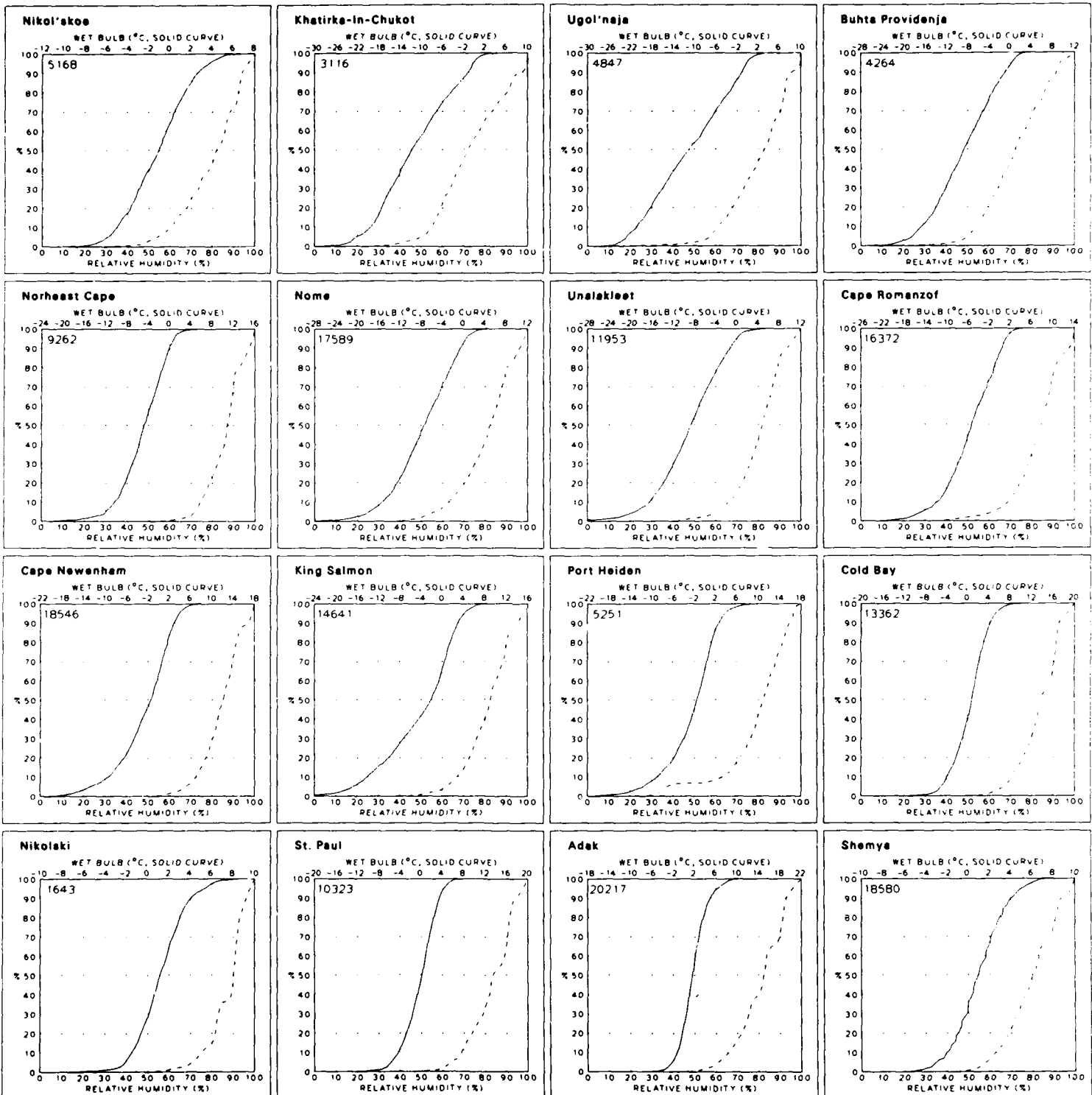
October

9 Wet Bulb and Relative Humidity



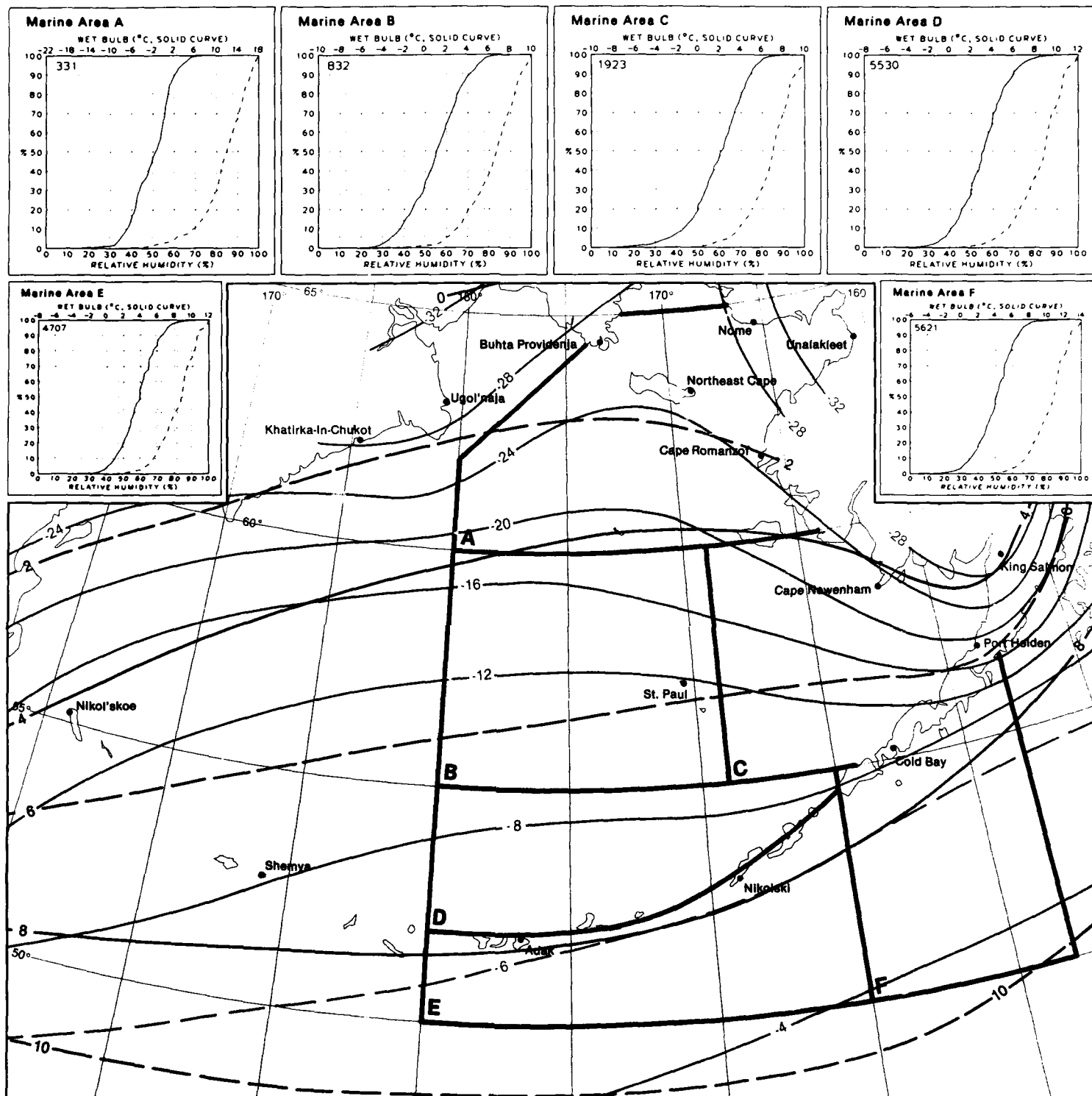
9 Dew Point Temperature Extremes

October



November

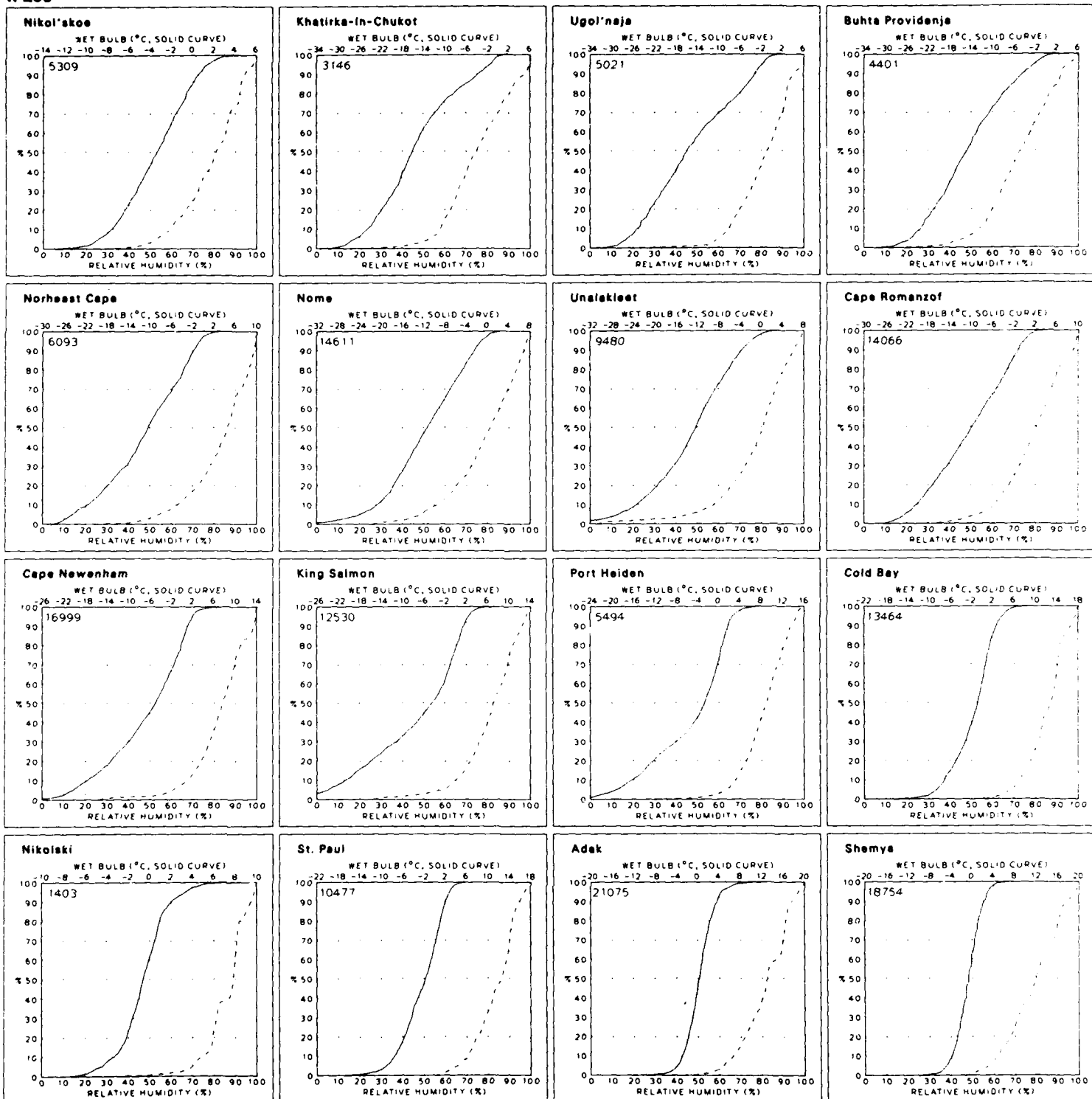
9 Wet Bulb and Relative Humidity



9 Dew Point Temperature Extremes

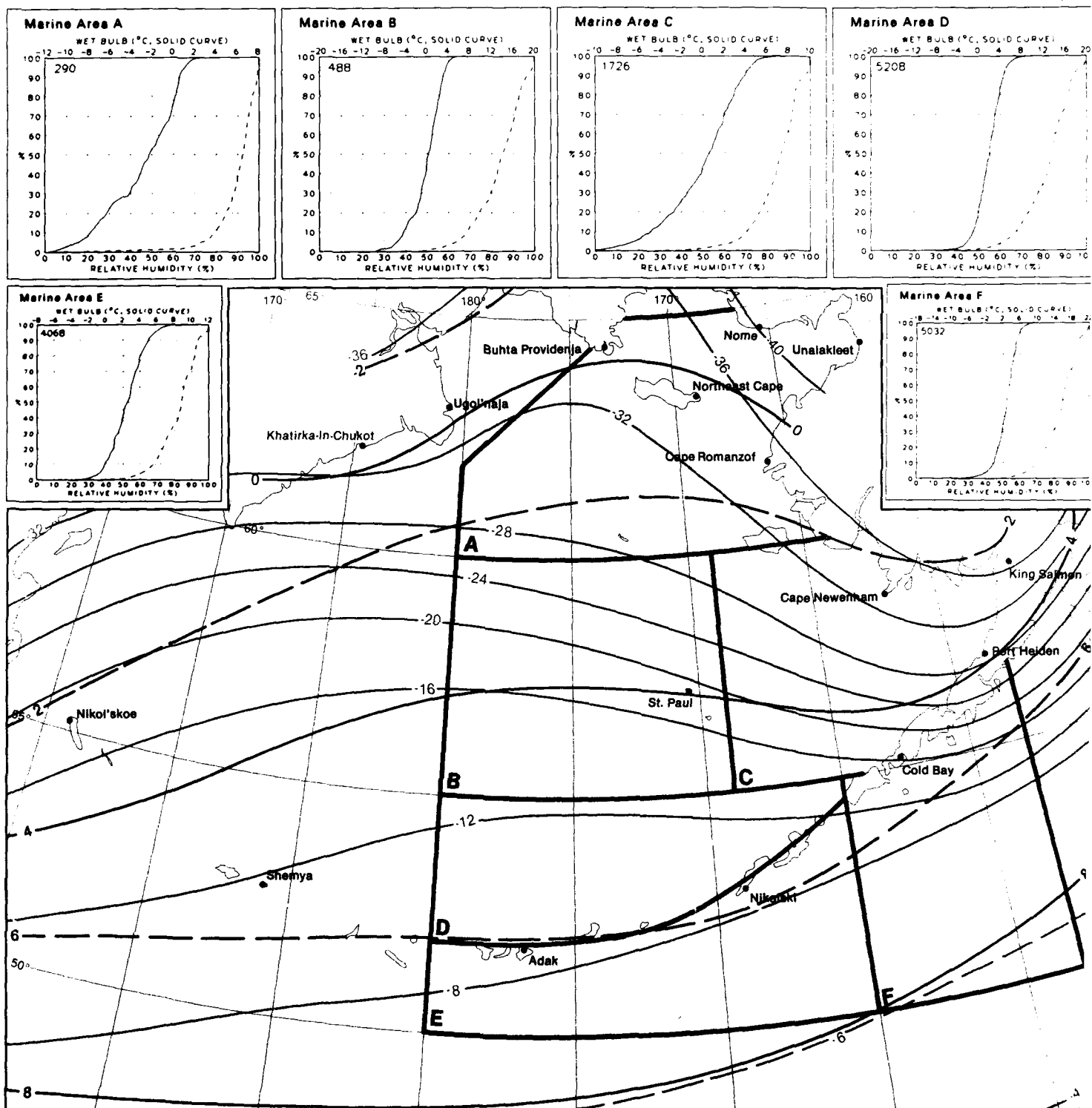
November





December

9 Wet Bulb and Relative Humidity



9 Dew Point Temperature Extremes

Decemb

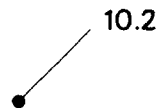
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## Map 10. Mean sea level pressure and vector mean wind

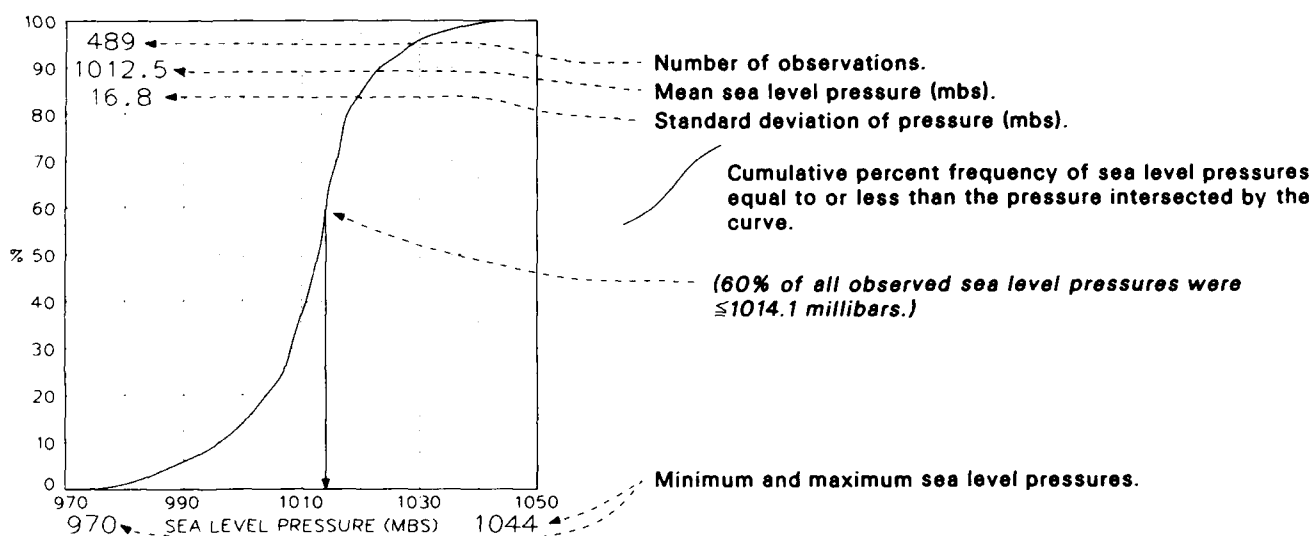
BLACK LINE — Mean sea level pressure (millibars).



Direction of flow toward station dot; vector magnitude in knots (example: vector mean wind is from northeast at 10.2 knots or 11.7 mph).

Albers Equal-Area Conic Projection

### Graphs: Sea level pressure

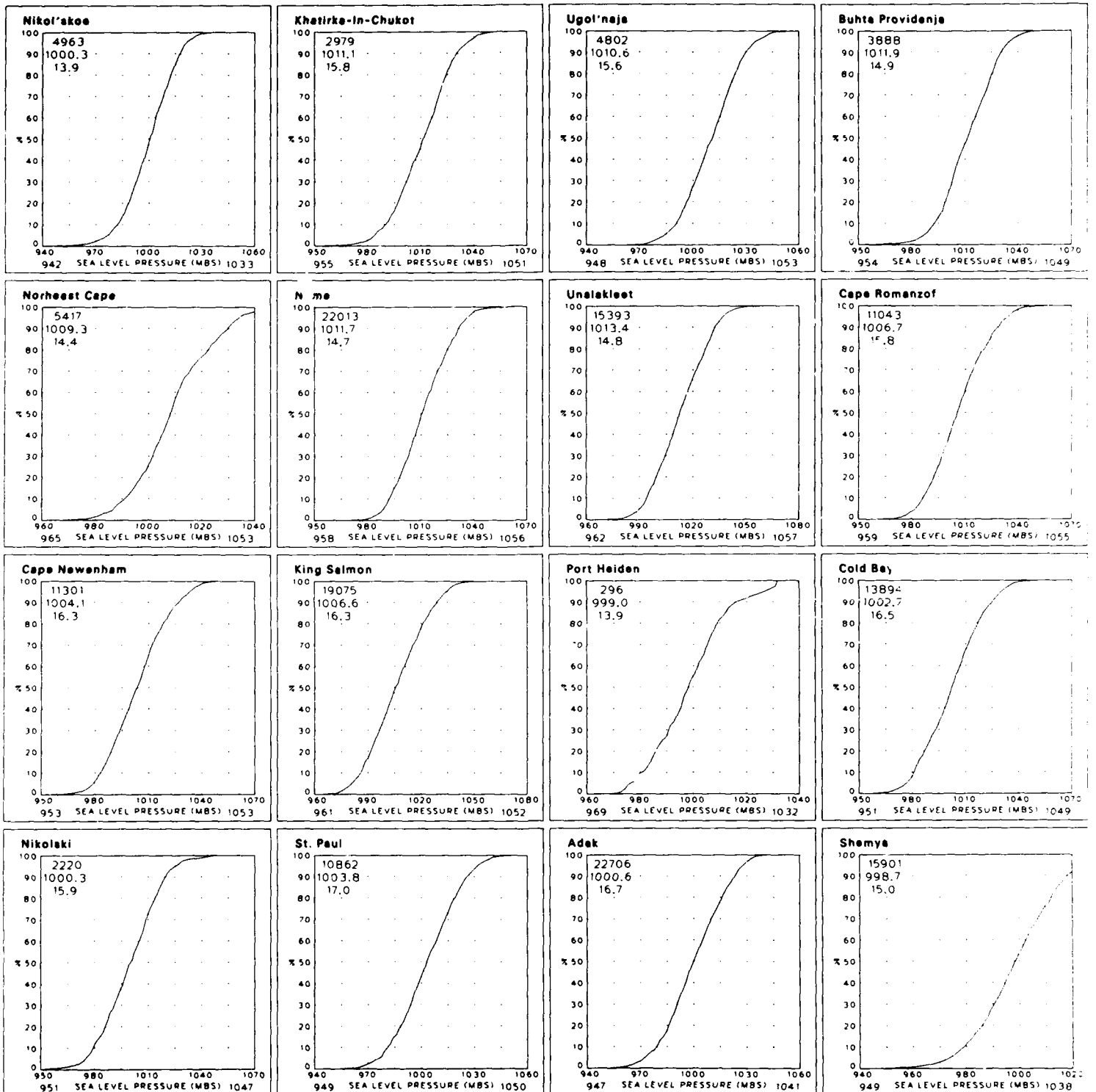


Sea level pressure is one of the most frequently recorded elements, but one of the least accurate because of instrument calibration and coding errors. Despite the inaccuracies of the individual readings, the large-scale patterns and mean gradients of the isopleth analyses are relatively accurate. The percentage of sea level pressure observations greater than a given value can be obtained from the graph by subtracting the cumulative percent frequency of that value from 100%.

In areas of high persistence (also called constancy, steadiness) of direction, the magnitude of the vector mean wind (Set 1) should closely approach that of the scalar mean wind (Set 13).

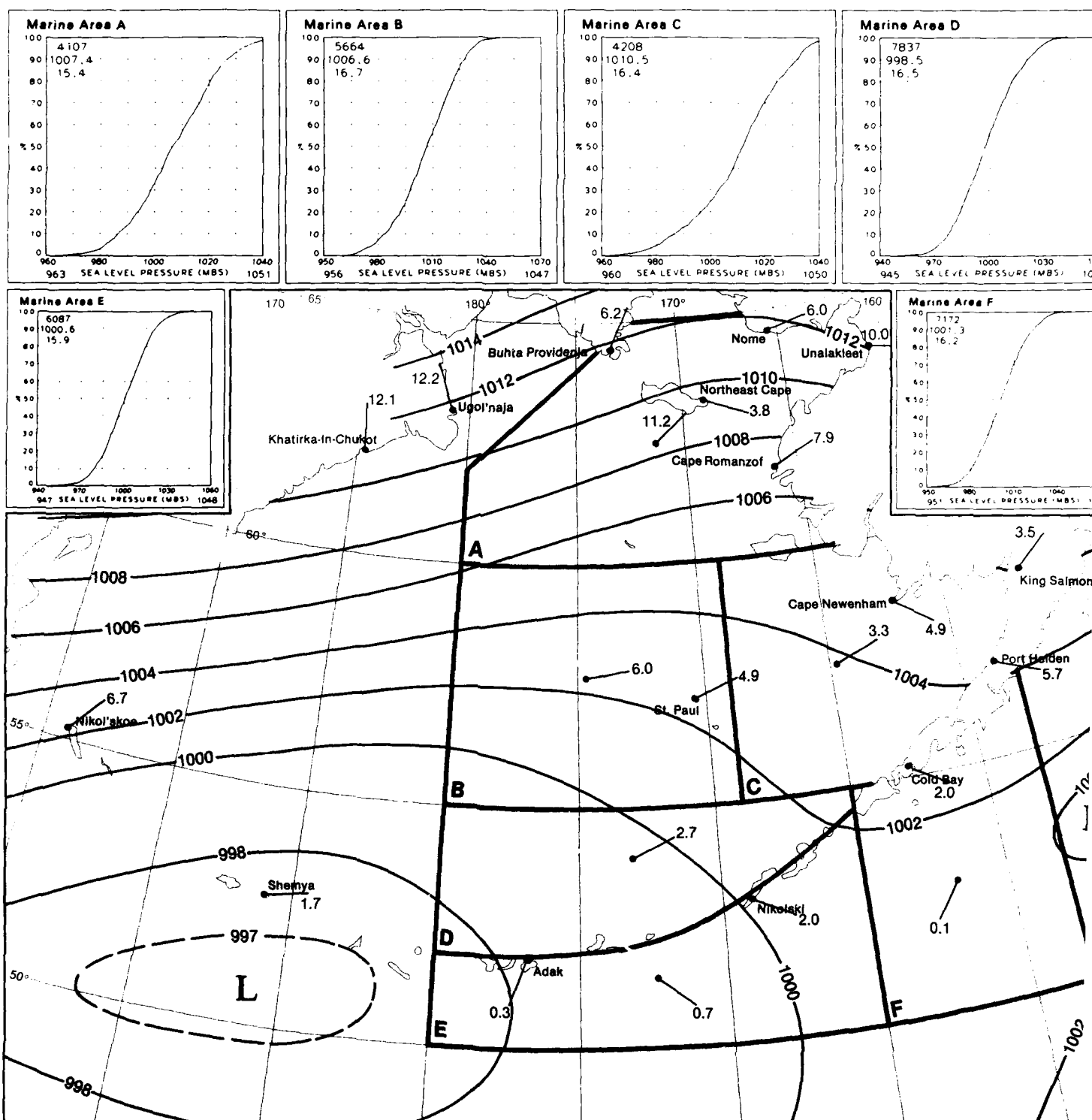
### 10 Legend

### Legend



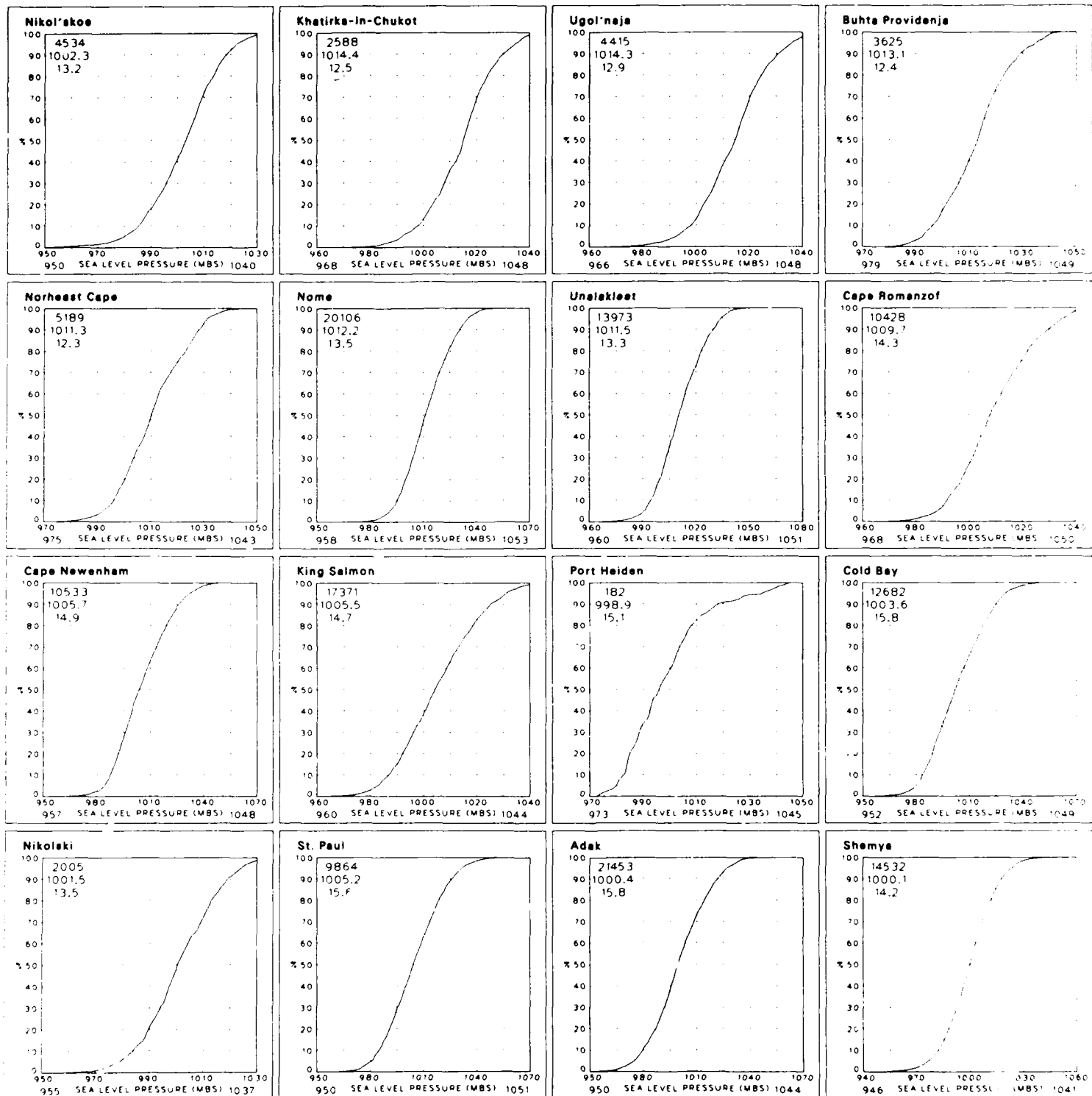
January

10 Sea Level Pressure



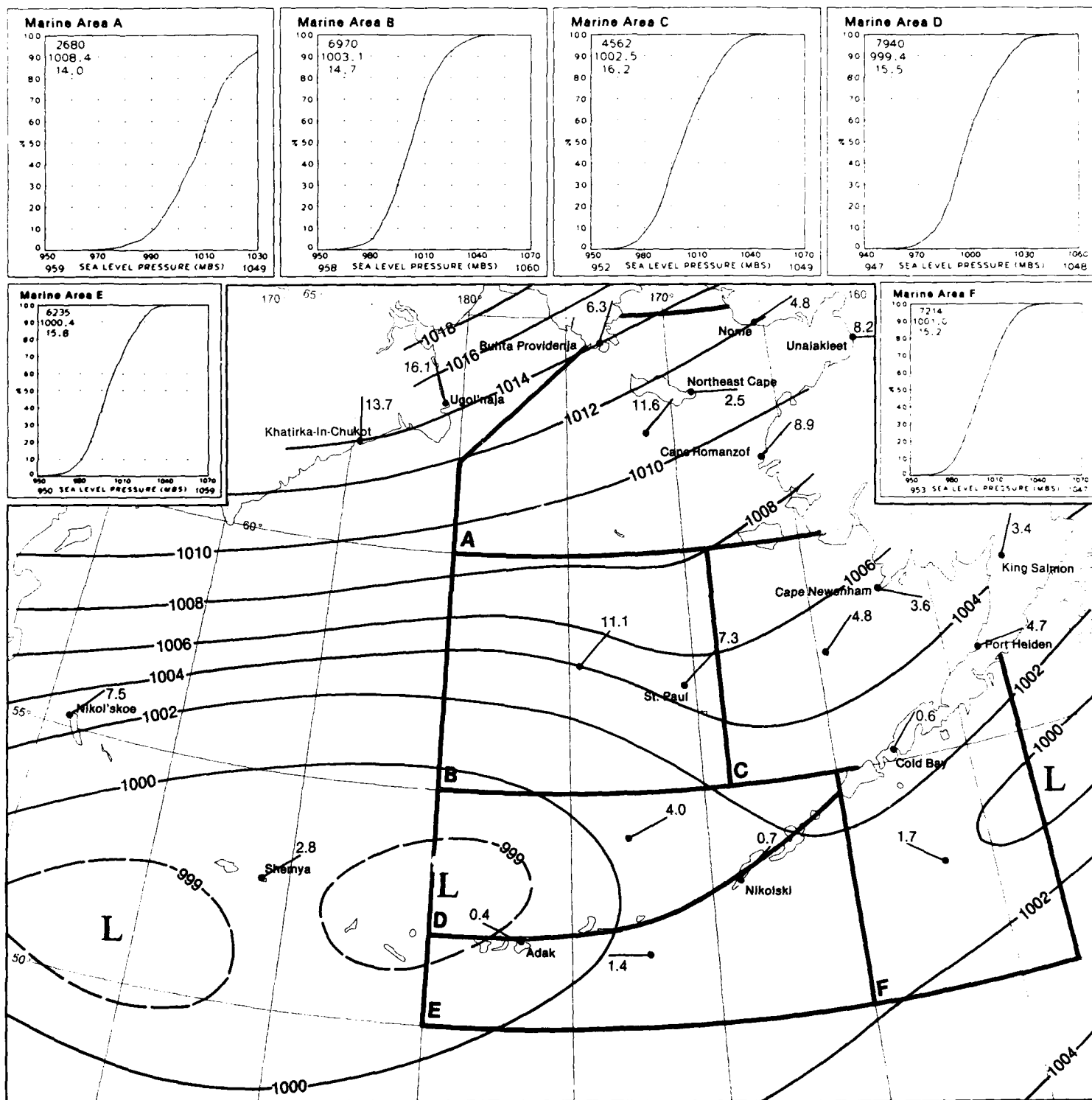
10 Mean Sea Level Pressure and Vector Mean Wind

Janu



February

10 Sea Level Pressure

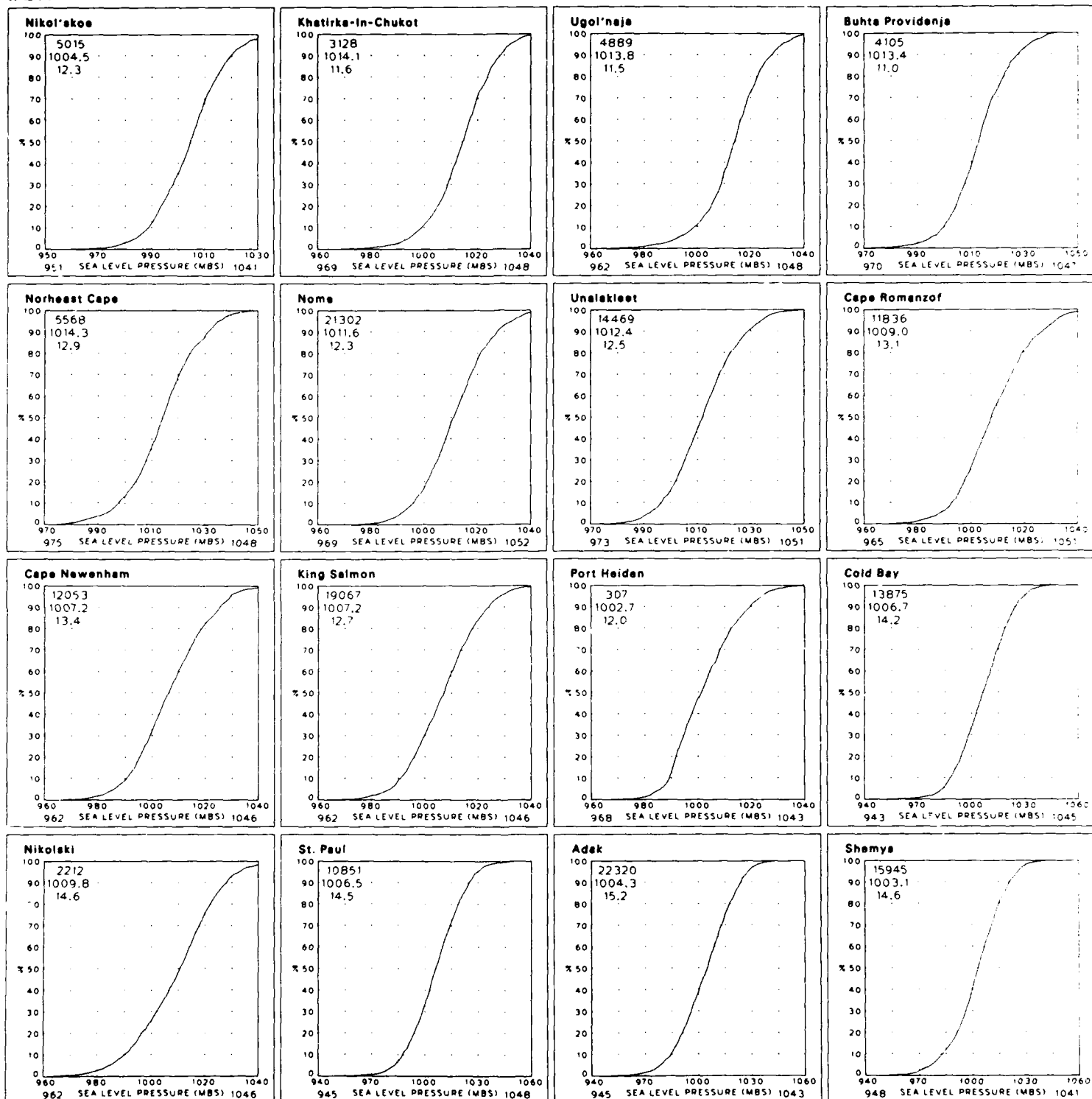


10 Mean Sea Level Pressure and Vector Mean Wind

February

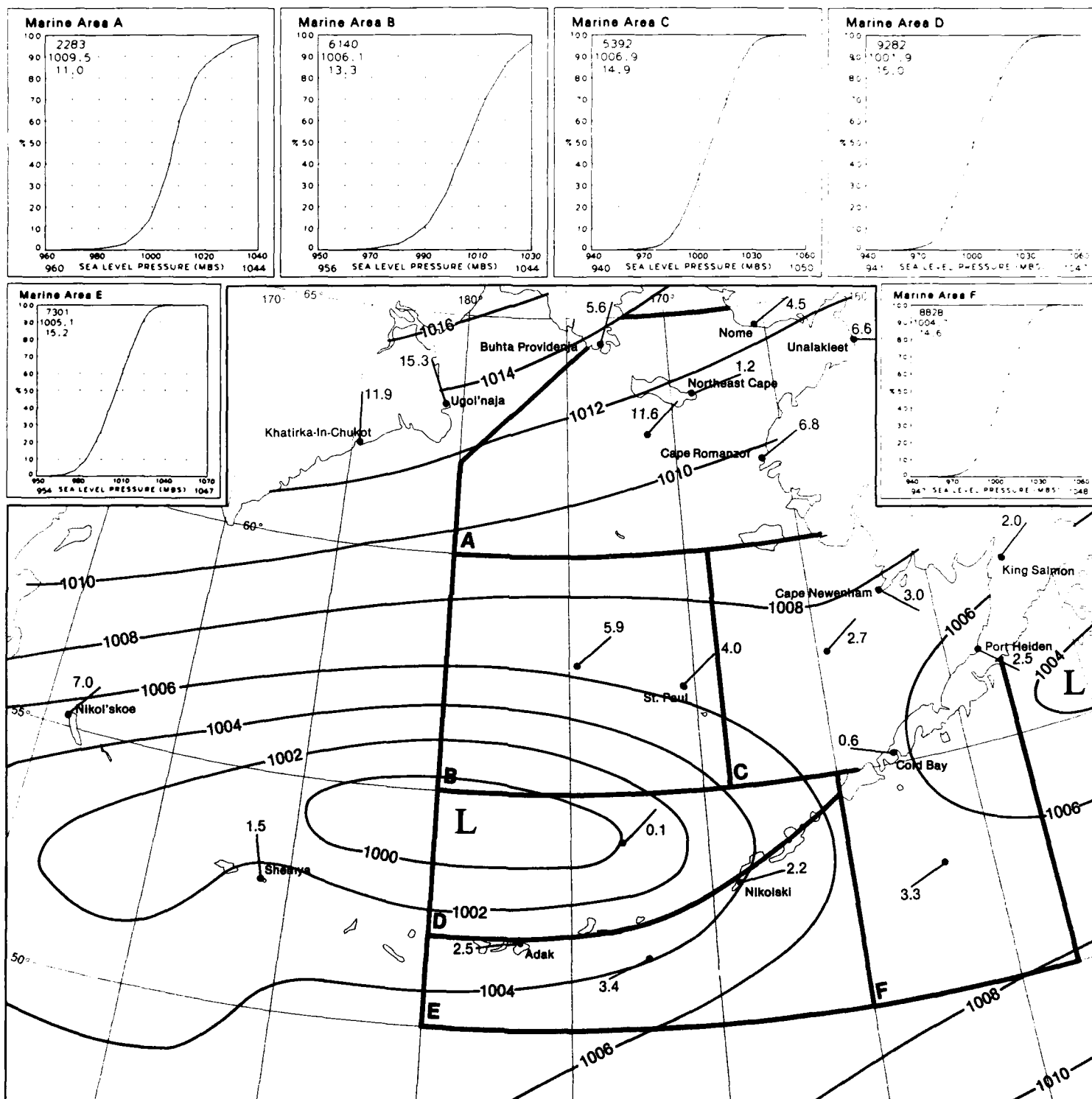


11-244



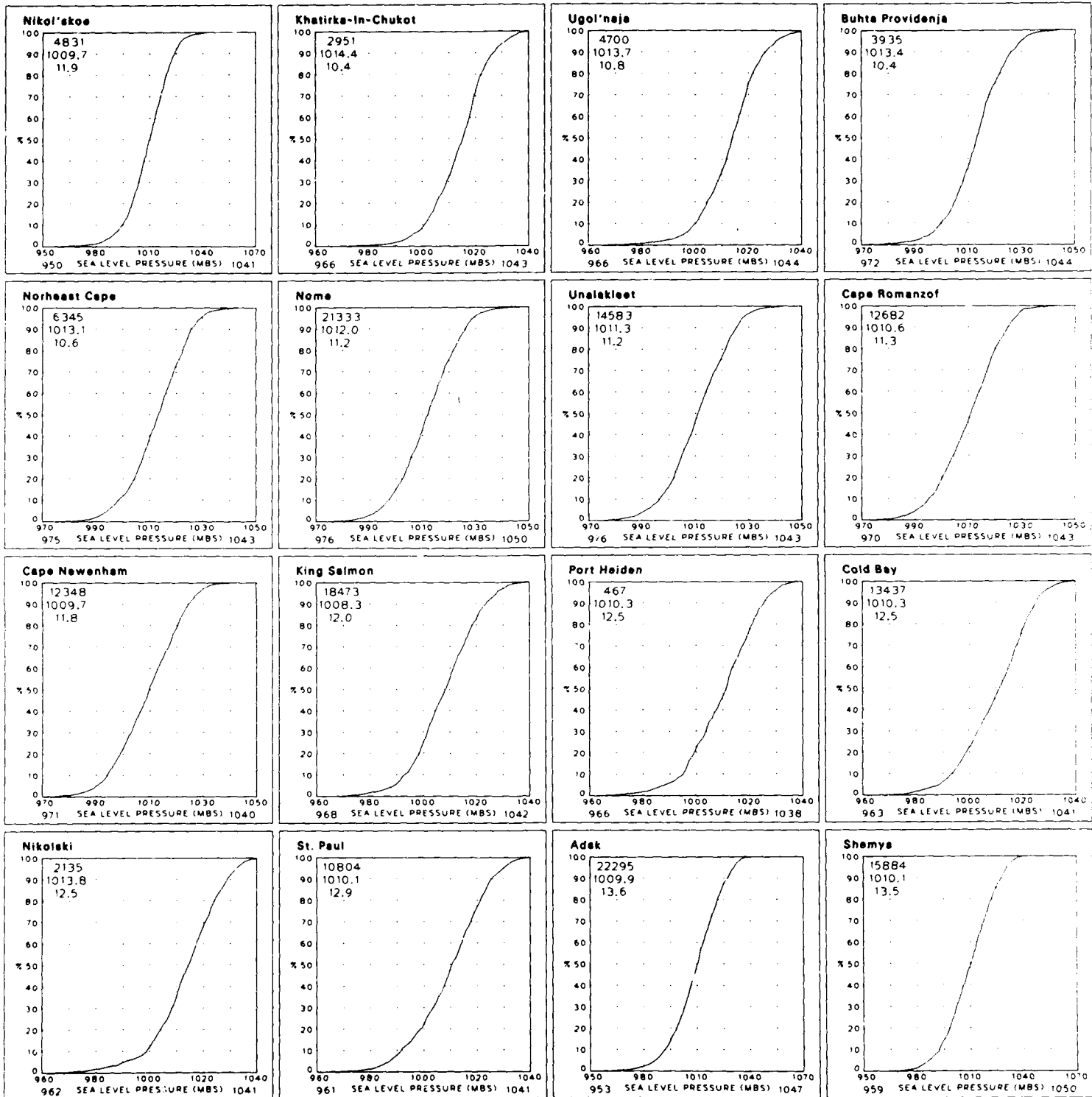
March

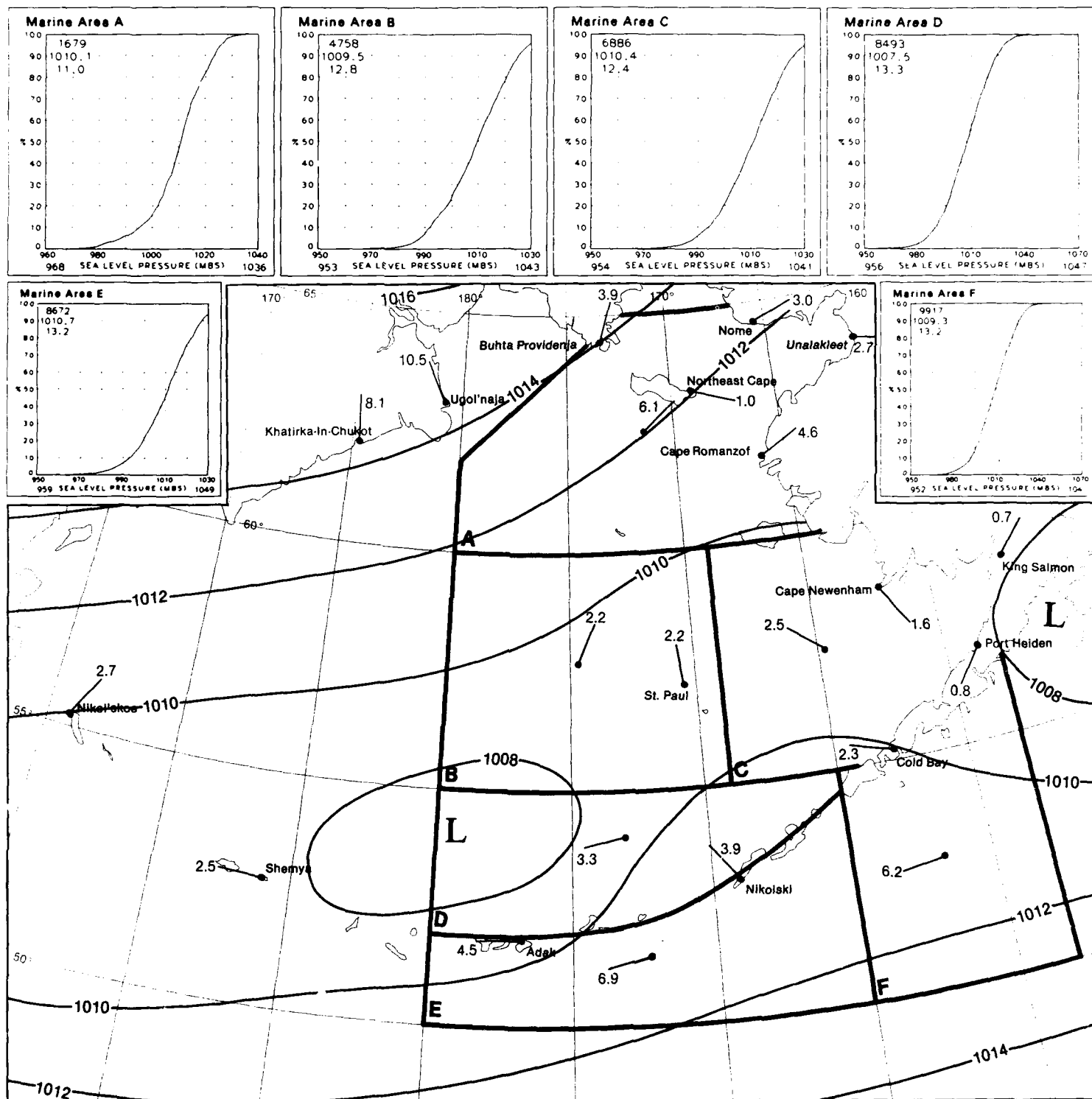
10 Sea Level Pressure



10 Mean Sea Level Pressure and Vector Mean Wind

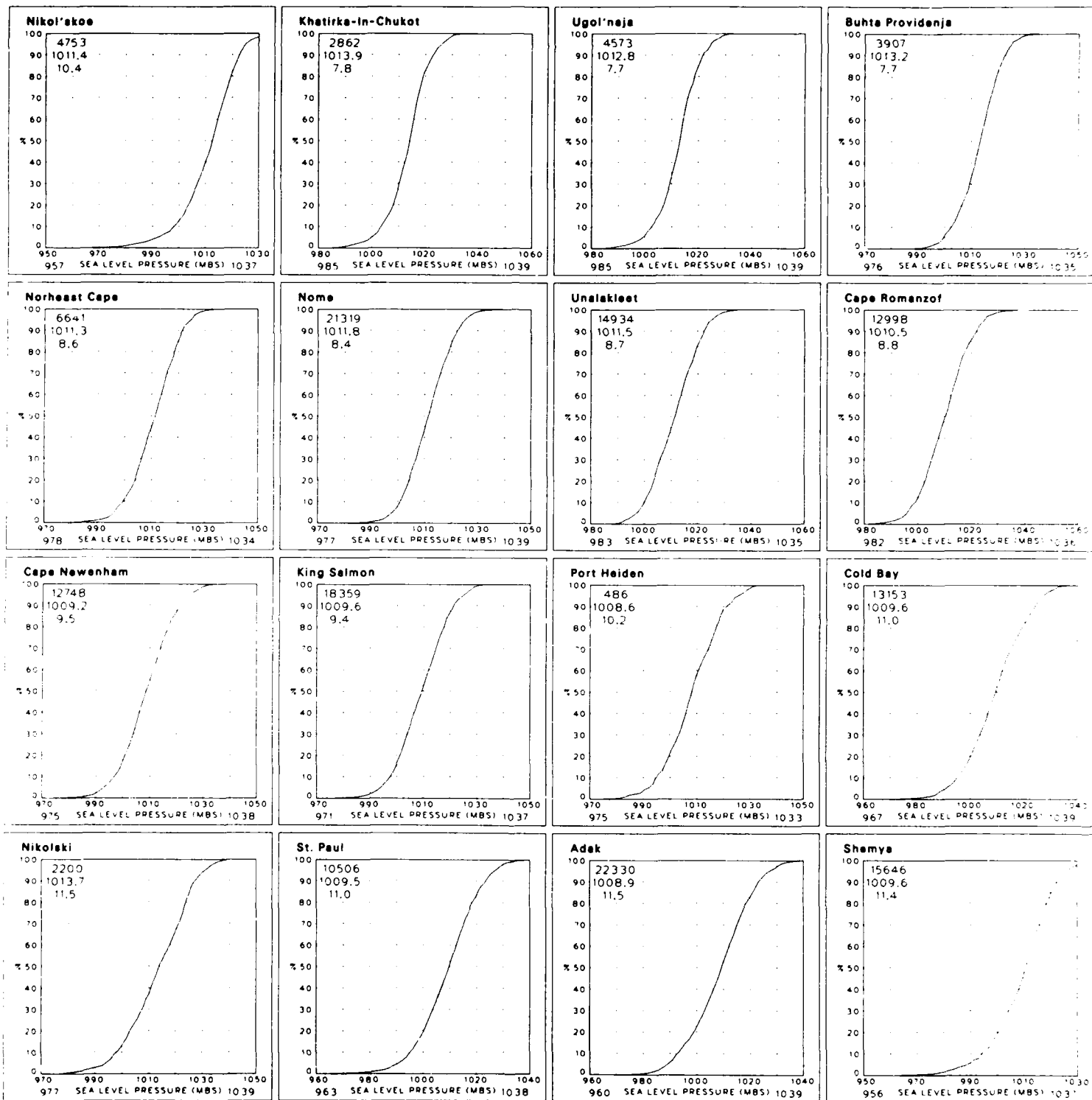
March





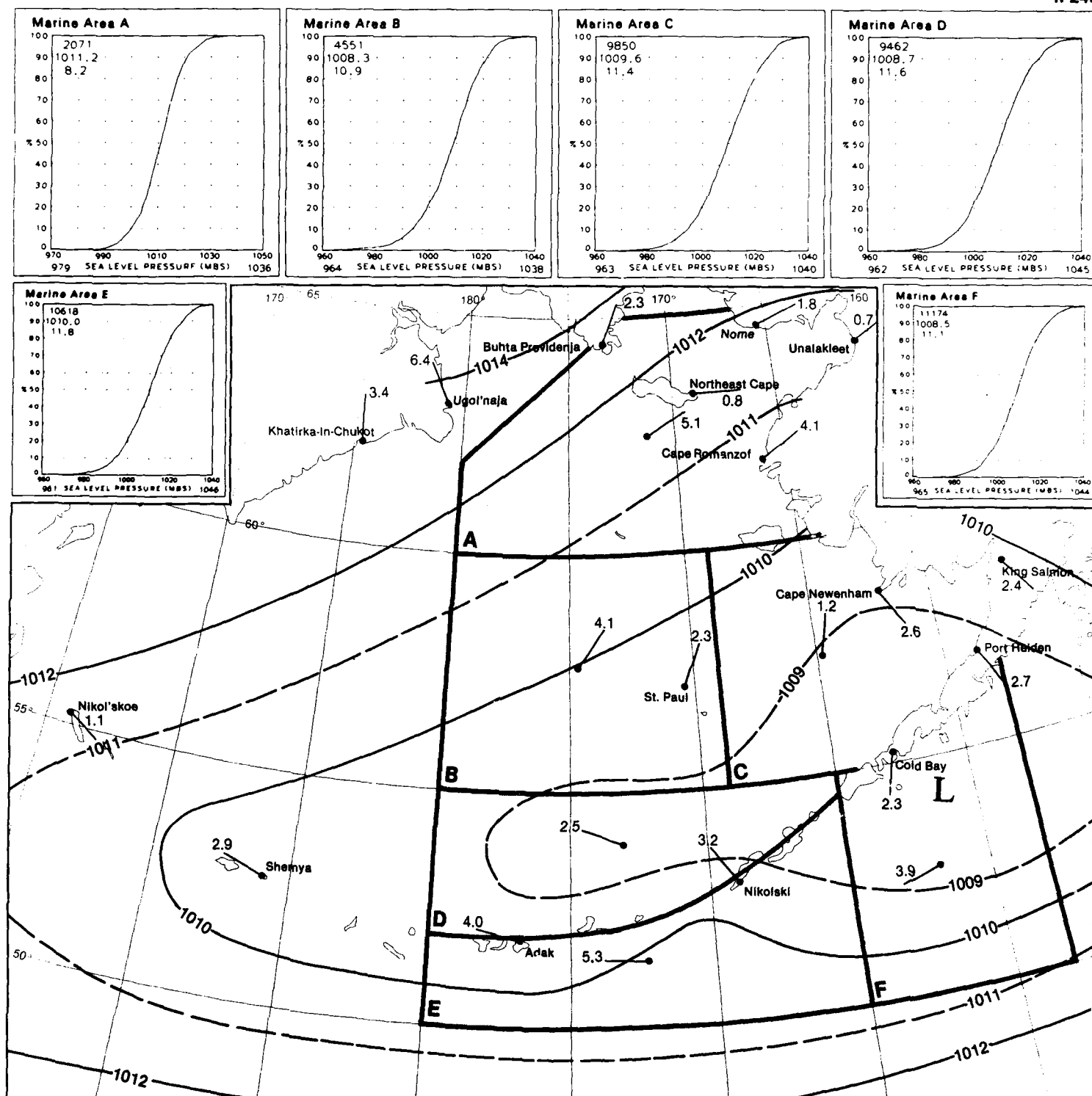
10 Mean Sea Level Pressure and Vector Mean Wind

April



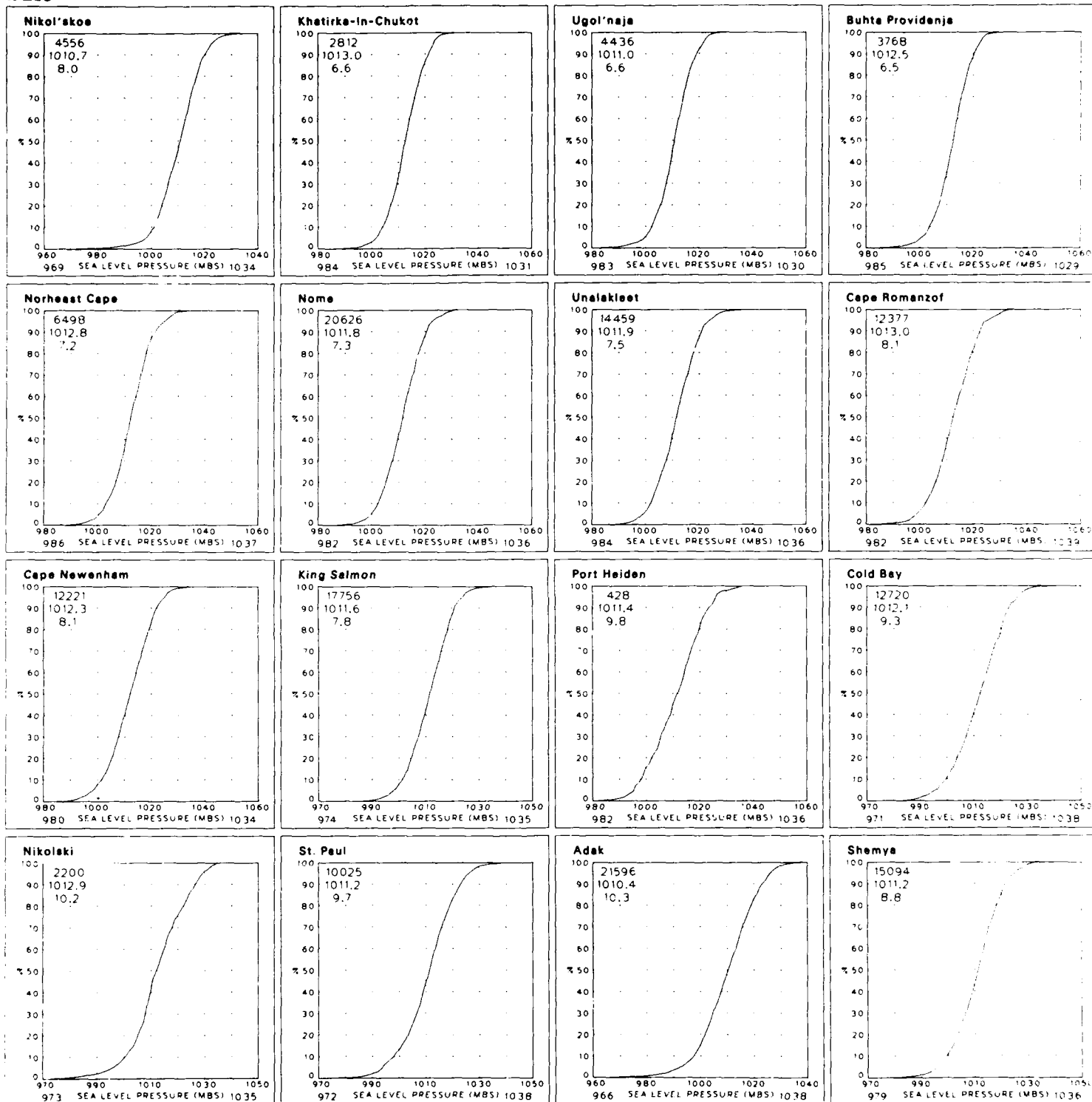
May

10 Sea Level Pressure



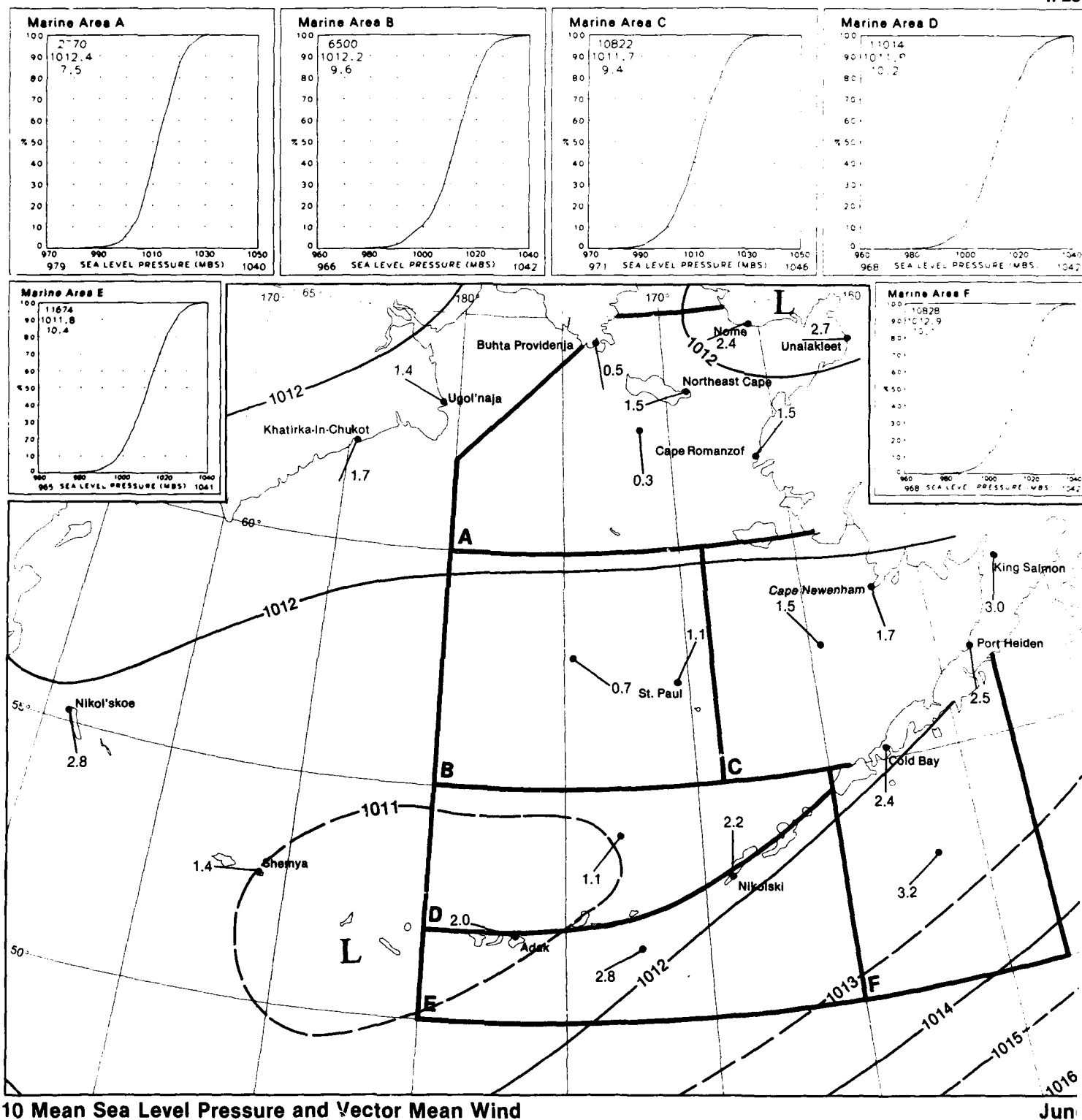
10 Mean Sea Level Pressure and Vector Mean Wind

May

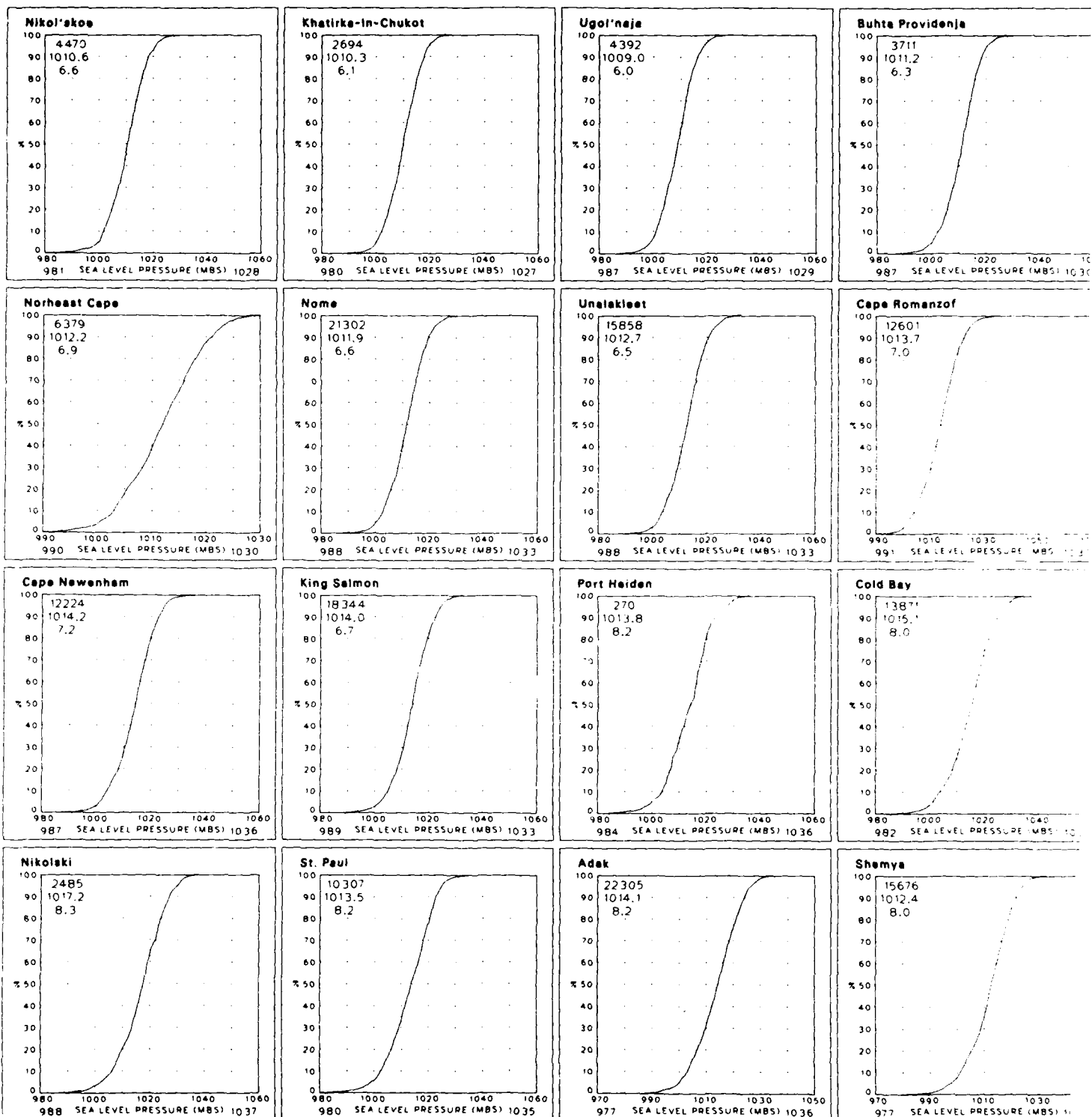


June

10 Sea Level Pressur

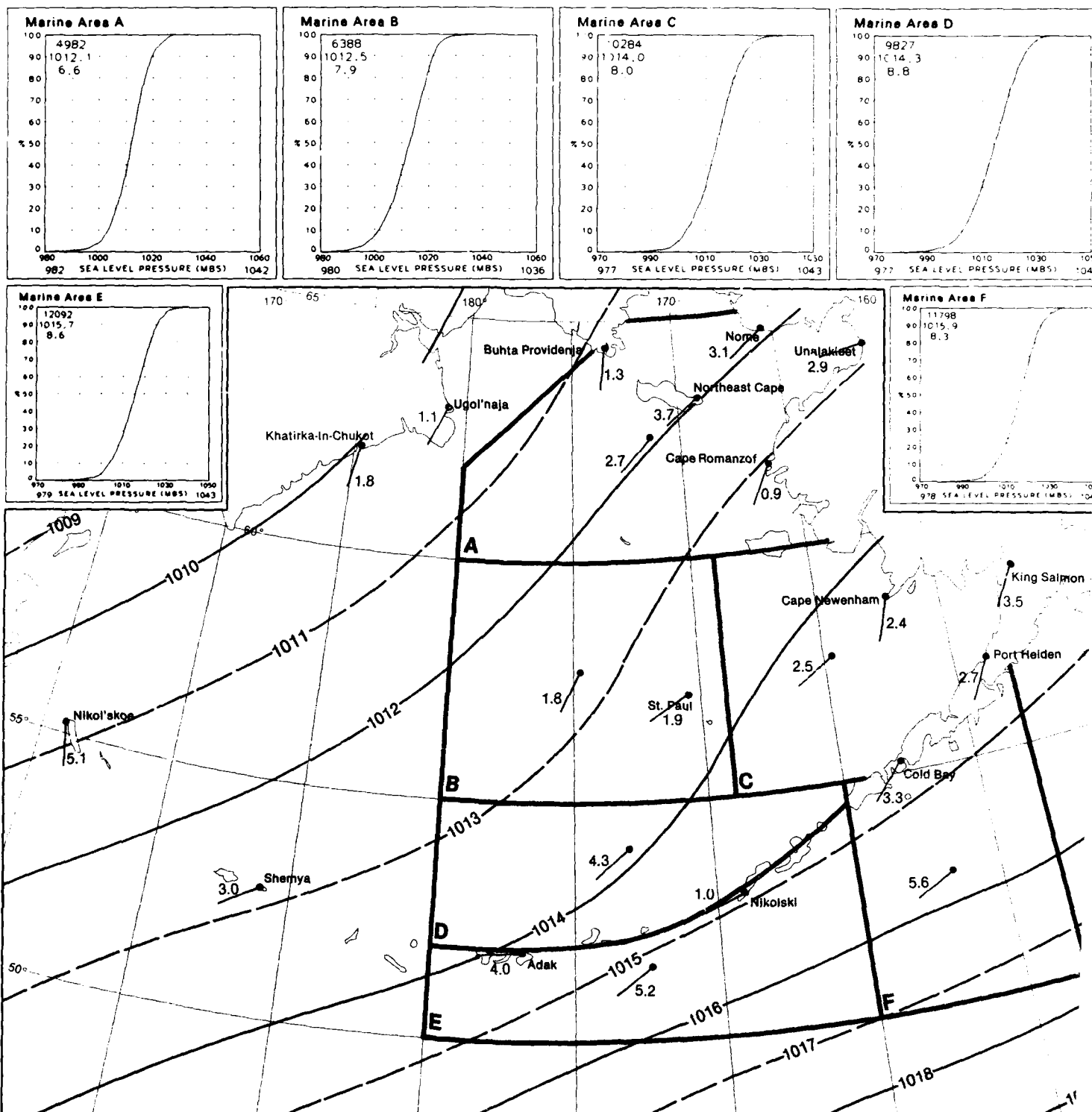






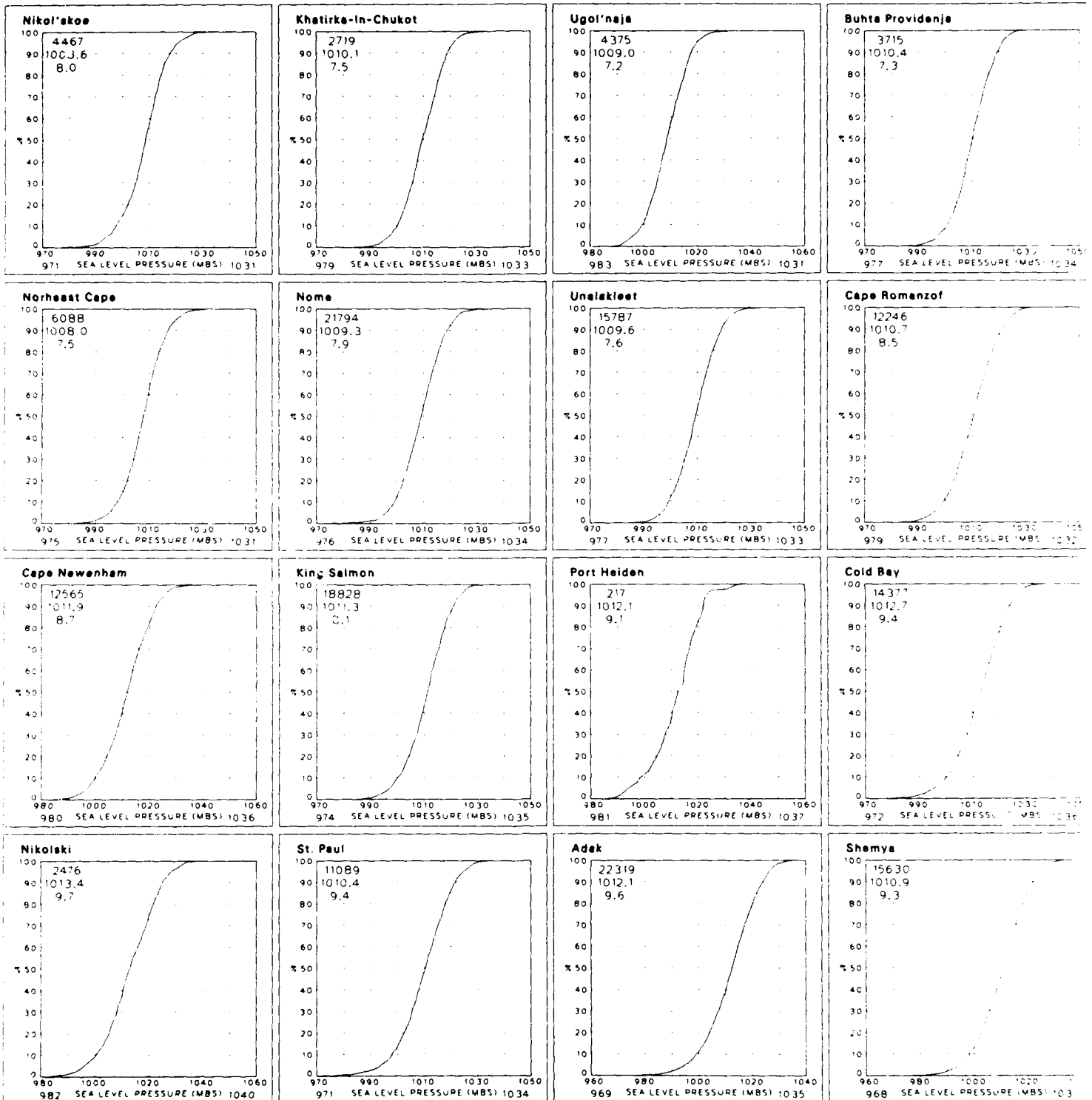
July

10 Sea Level Pres:



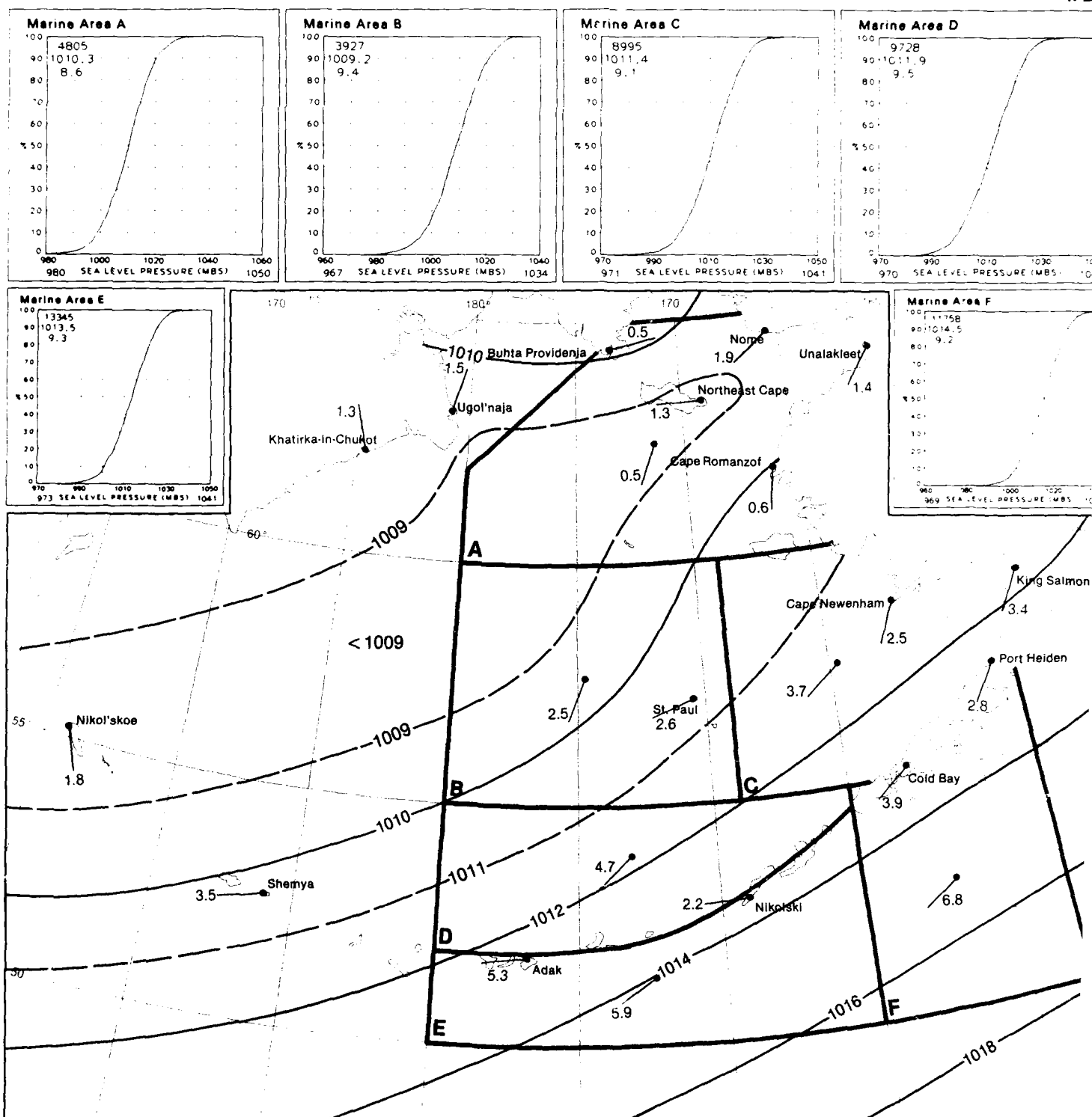
10 Mean Sea Level Pressure and Vector Mean Wind

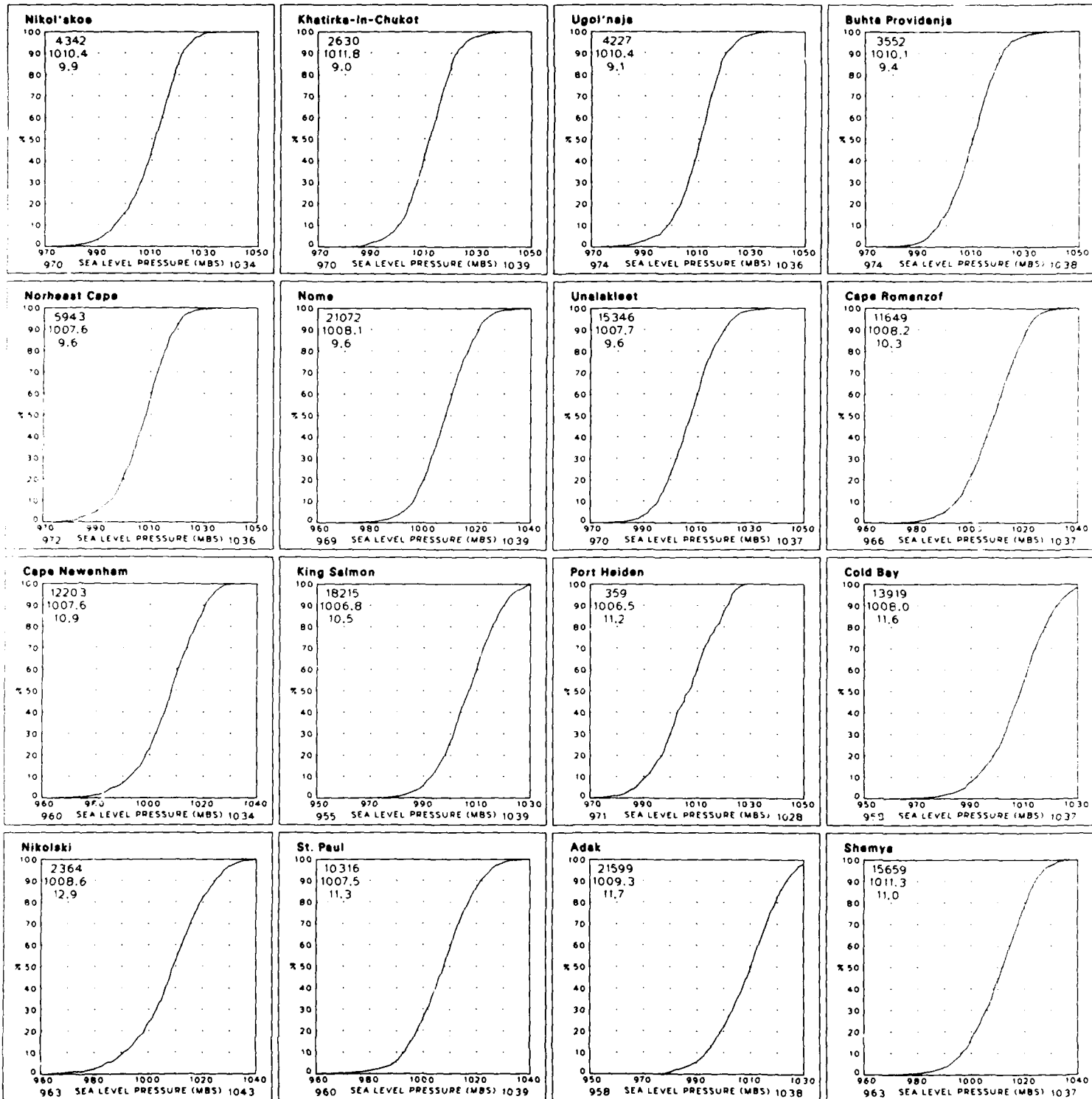
J



August

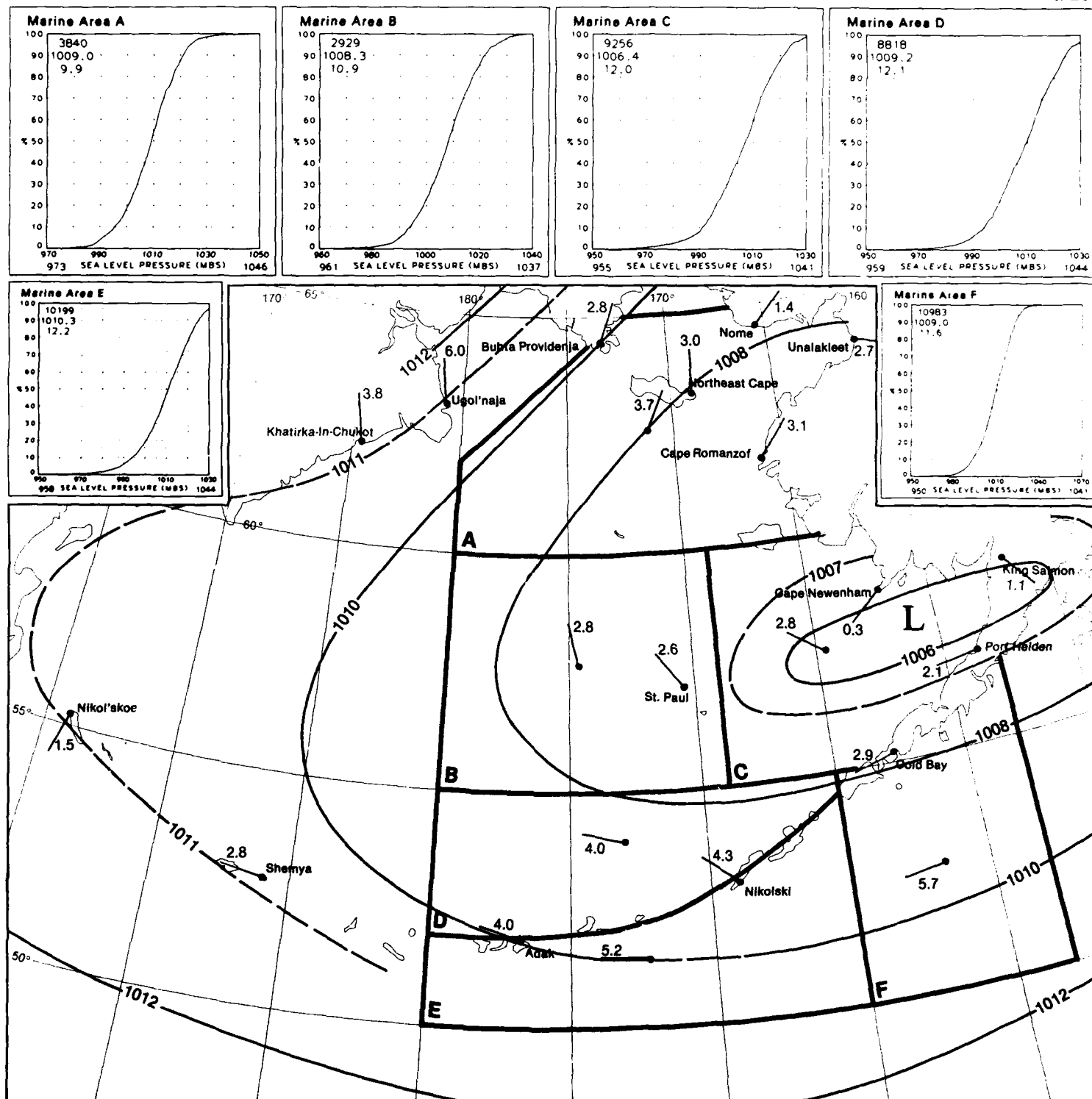
10 Sea Level Pressi





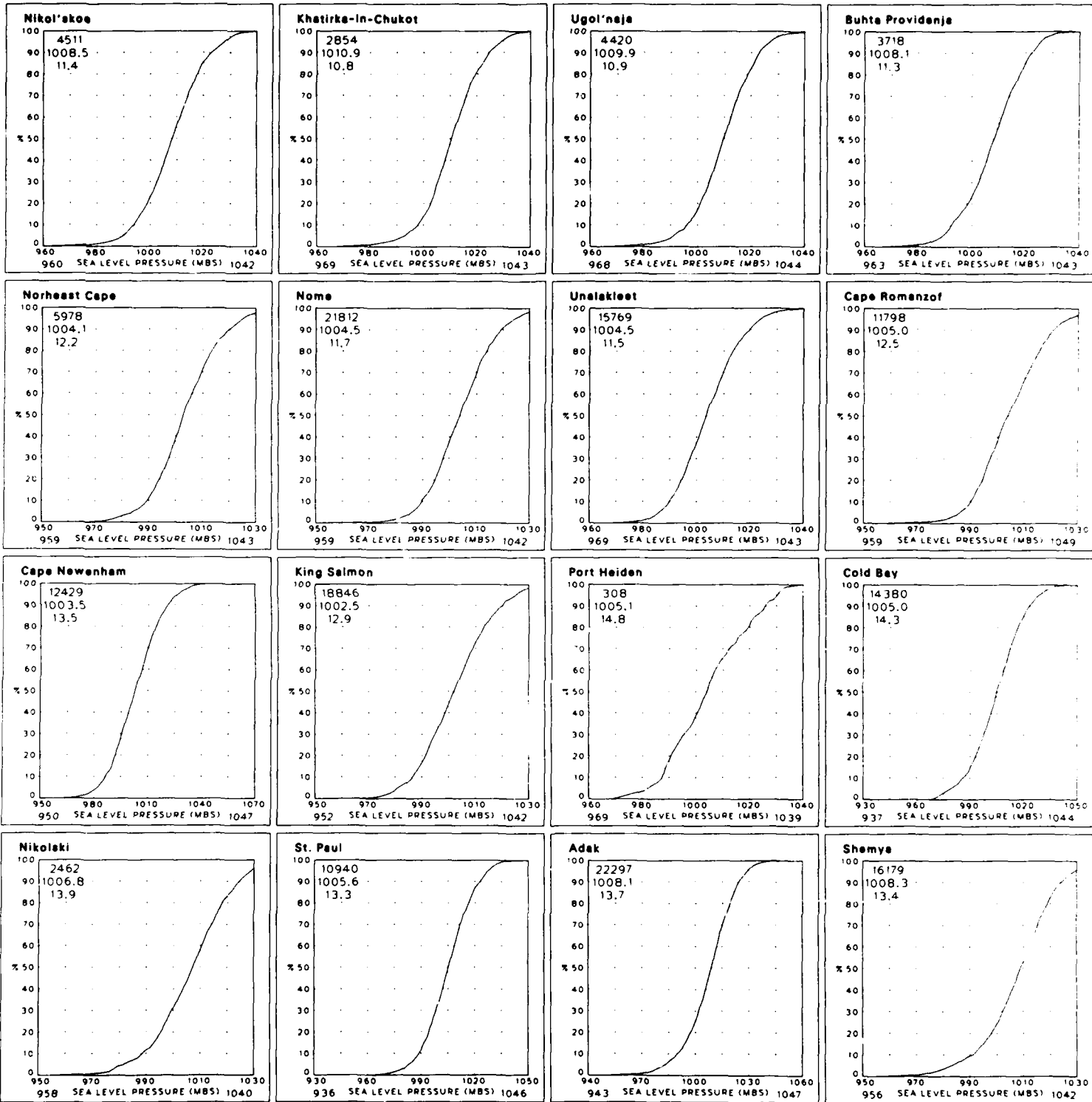
September

10 Sea Level Pressure



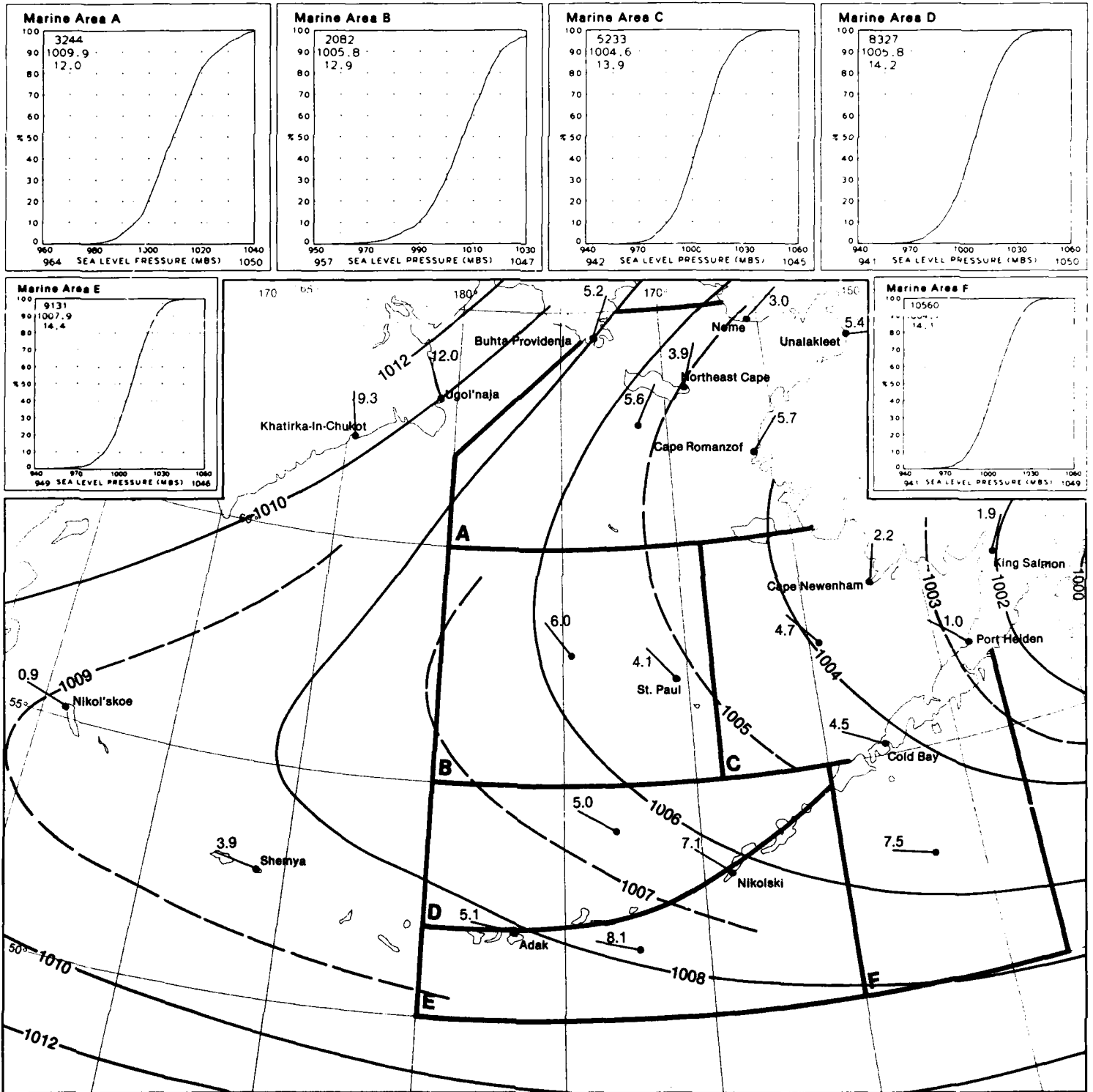
10 Mean Sea Level Pressure and Vector Mean Wind

September



October

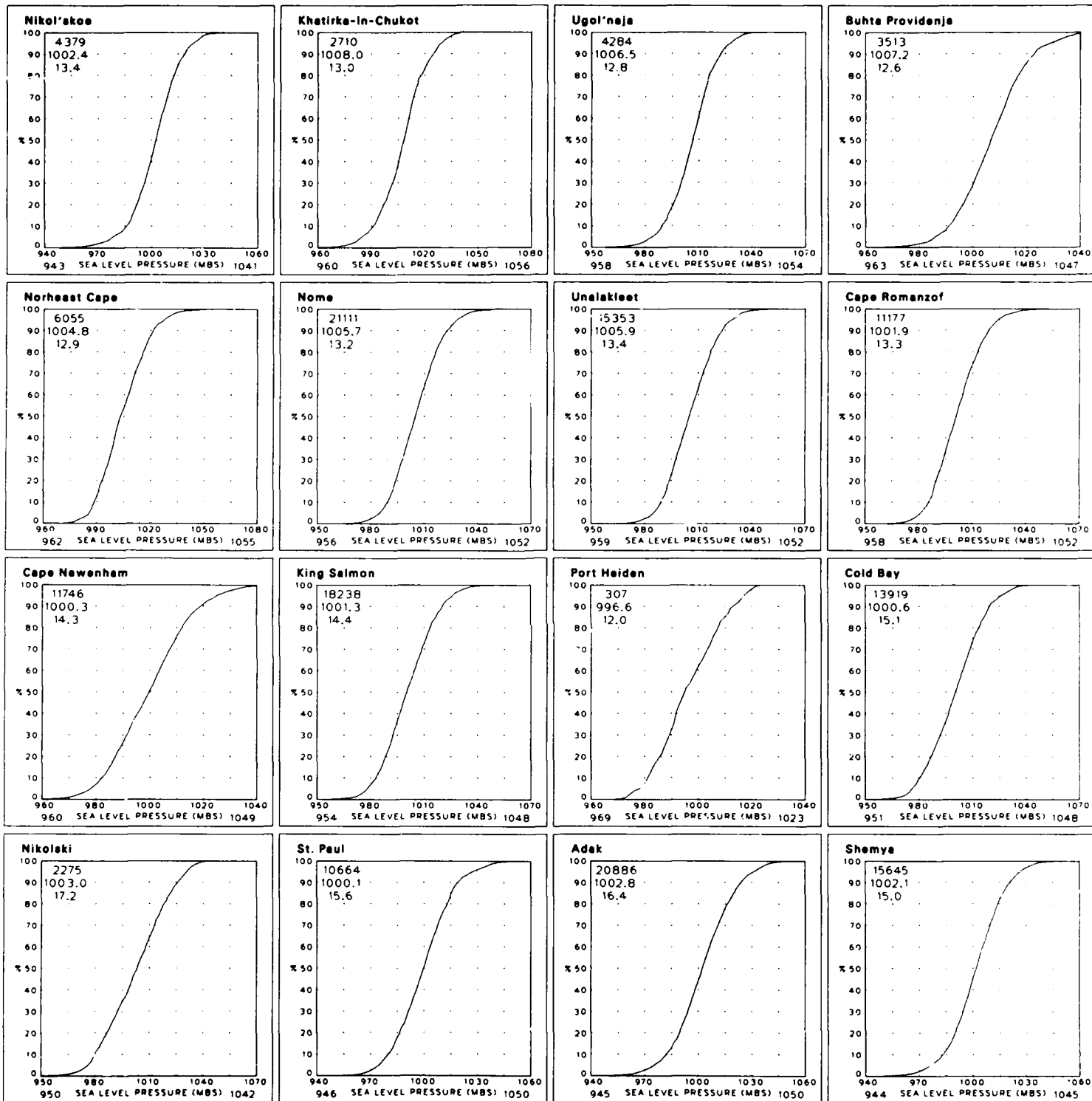
10 Sea Level Pressure



10 Mean Sea Level Pressure and Vector Mean Wind

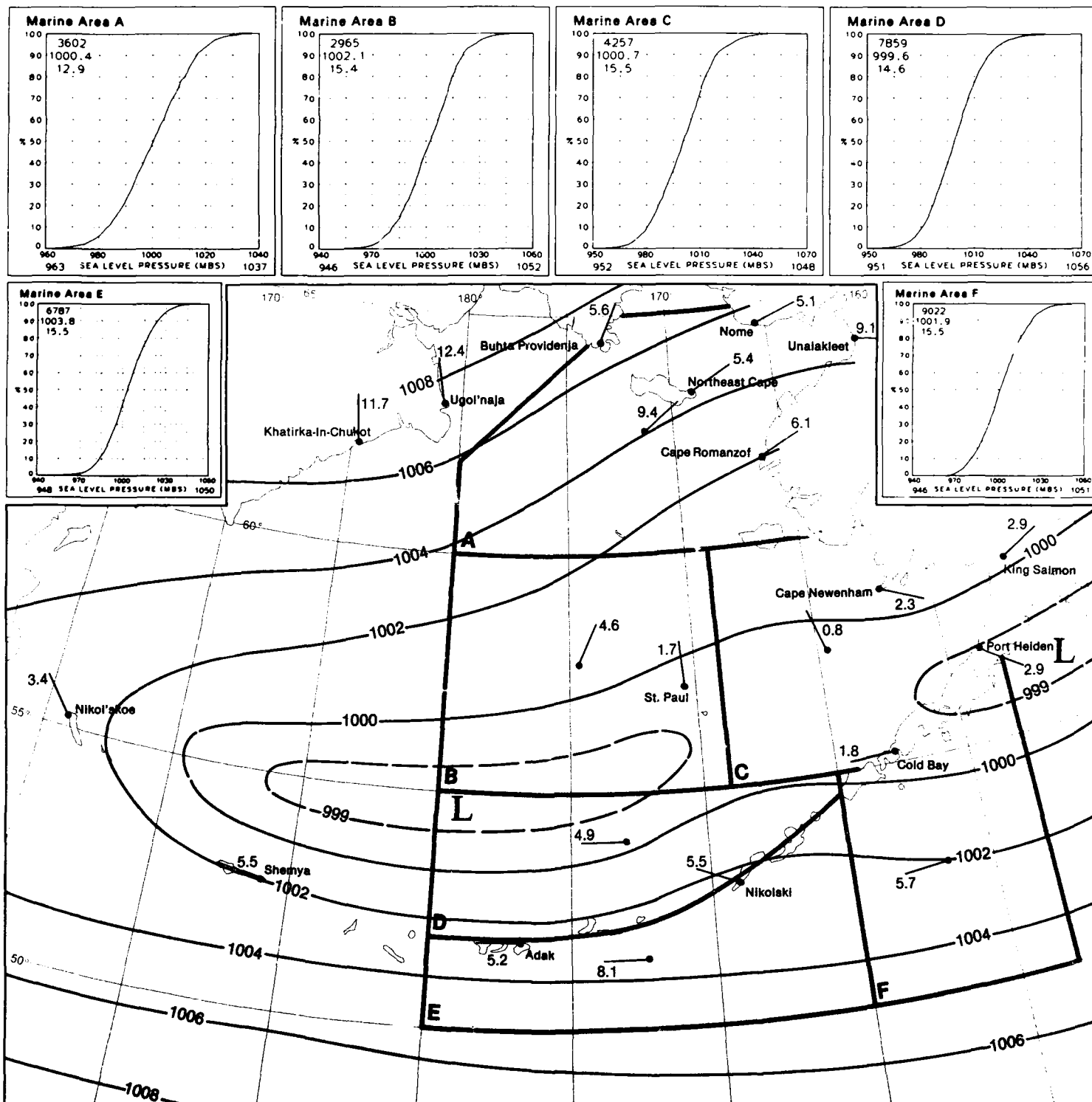
October





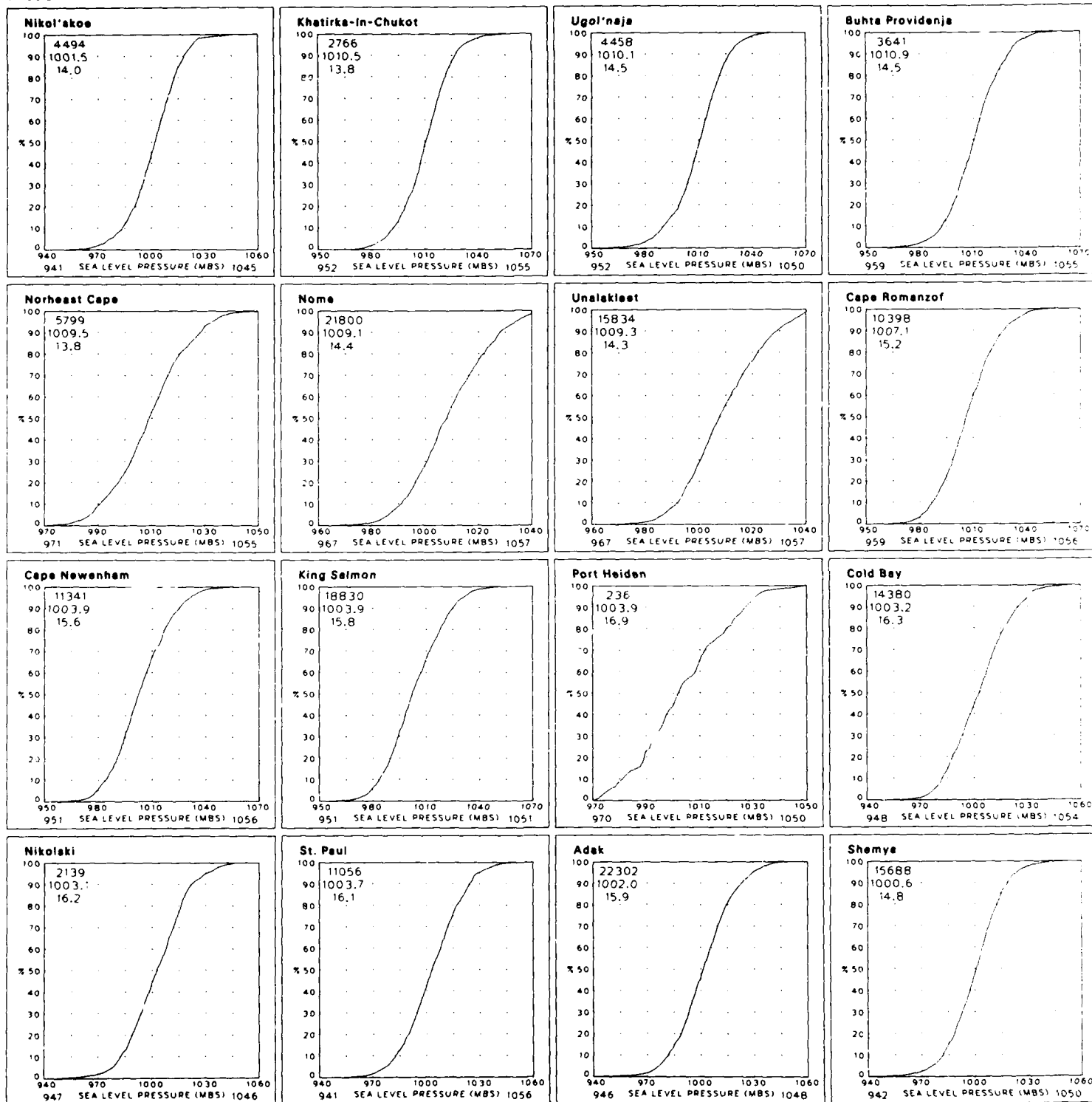
November

10 Sea Level Pressure



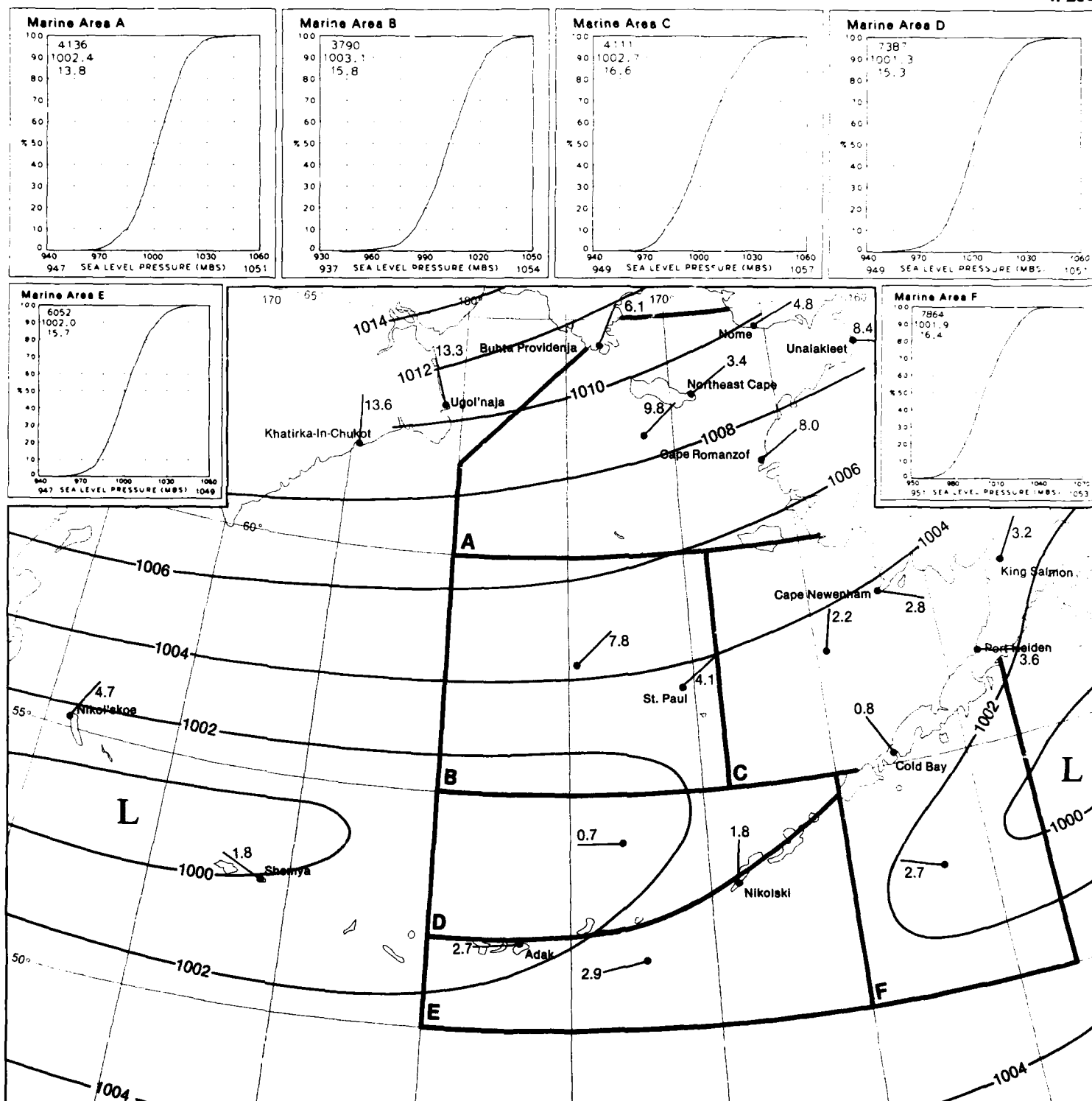
10 Mean Sea Level Pressure and Vector Mean Wind

November



December

10 Sea Level Pressure



10 Mean Sea Level Pressure and Vector Mean Wind

December

II-264

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## Map 11. Wind speed $\leq 10$ and $\geq 34$ knots

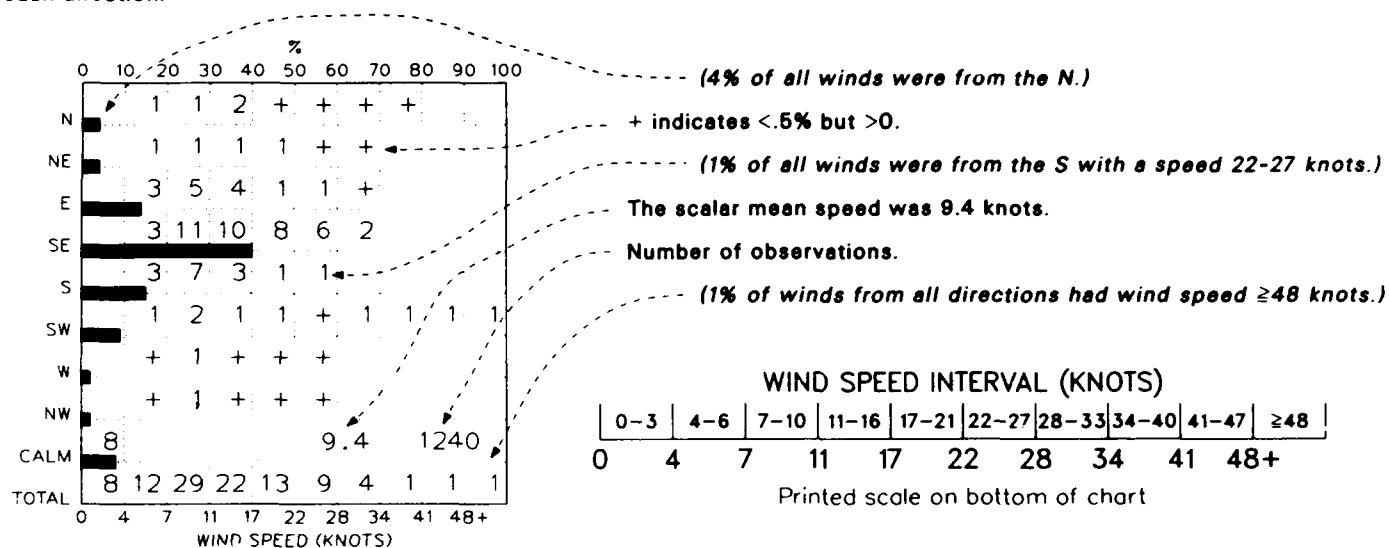
BLACK LINE – Percent frequency of wind speed  $\leq 10$  knots ( $\leq 12$  mph).

BLUE LINE – Percent frequency of wind speed  $\geq 34$  knots ( $\geq 39$  mph).

Albers Equal-Area Conic Projection

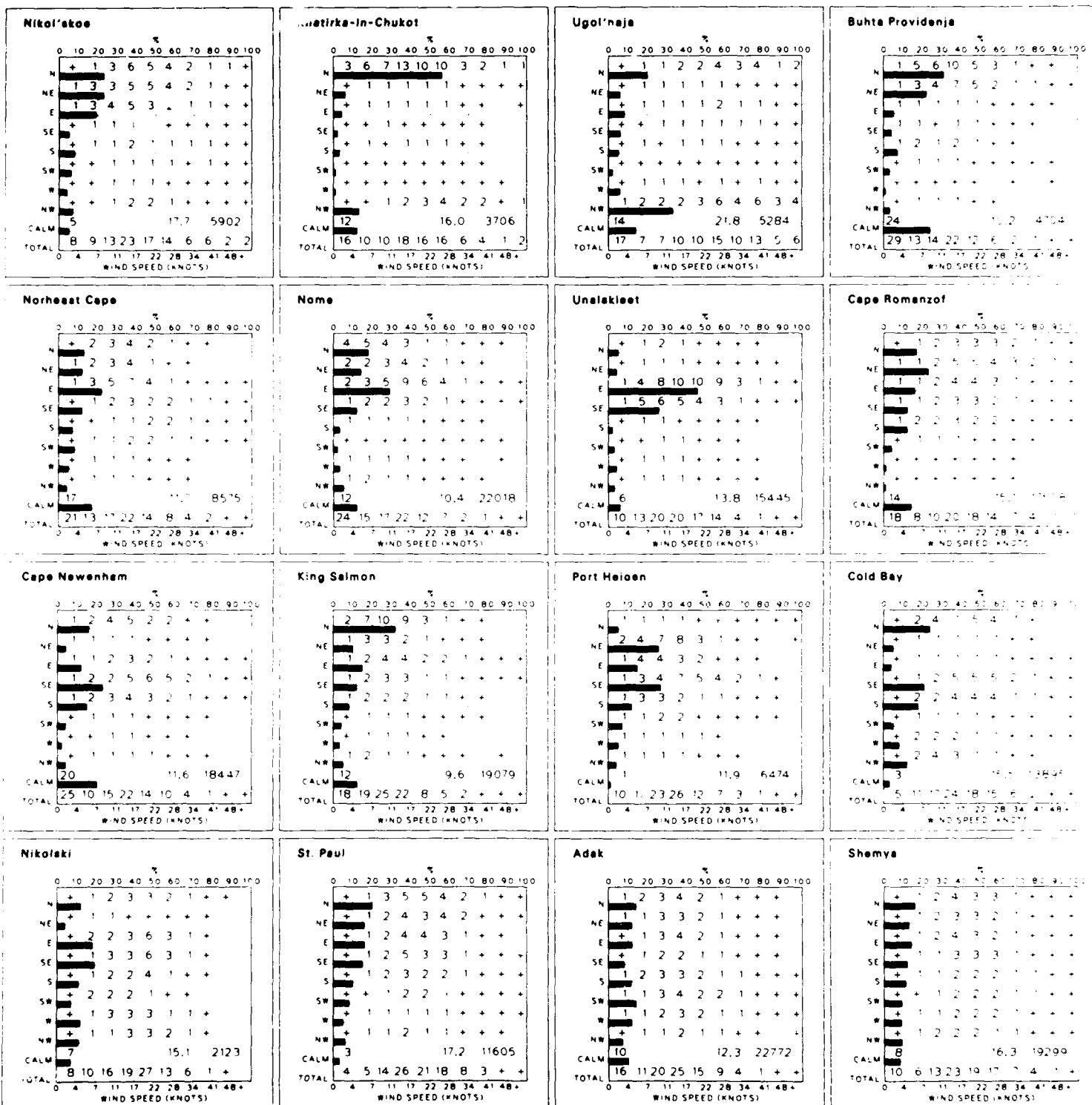
### Graphs: Wind speed/direction

Direction frequency (top scale): Bars represent percent frequency of winds observed from each direction. Speed frequency (bottom scale): Printed figures represent percent frequency of wind speeds observed from each direction.

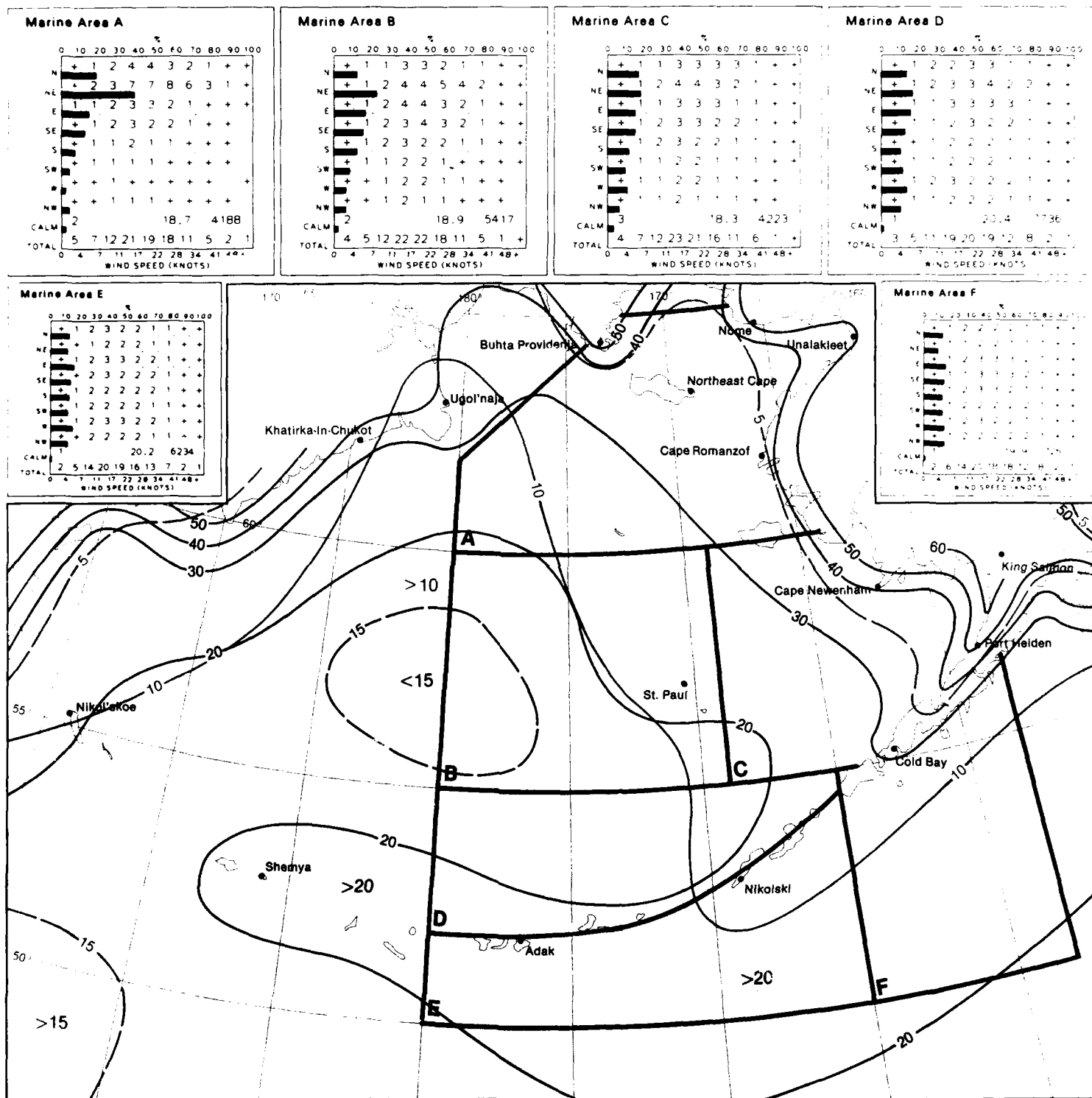


The scalar mean wind speed on the graph is based on the number of observations reporting a wind speed with direction. The sum of the TOTAL line provides the cumulative percent frequency of wind speed below a selected threshold value. In the legend graph, 71% of all winds were less than 17 knots (20 mph). The sum of the percent frequencies of the four wind speed isopleths for a given month and location on Map Sets 11 and 12 should equal 100%.

Surface wind is one of the most commonly observed elements. Many of the observations from the NCDC data base are visual observations based on the roughness of the sea (see table in text of Set 14). In recent years, more ships acquired anemometers and reported measured winds. Prior to 1963, many of the winds were recorded in the Beaufort scale; such estimates have proven to be quite reliable and can be used with a high degree of confidence.



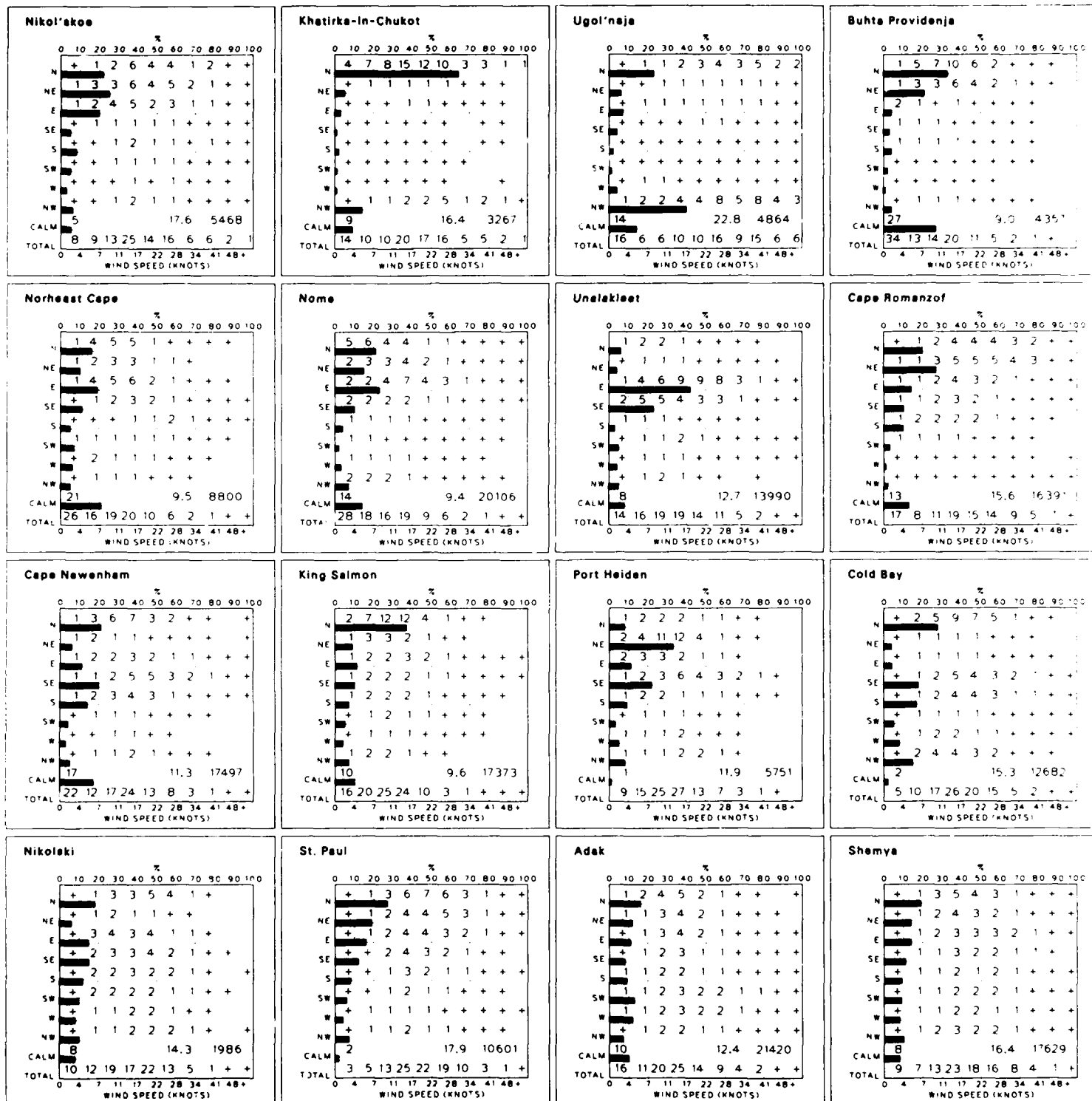
January&lt;/

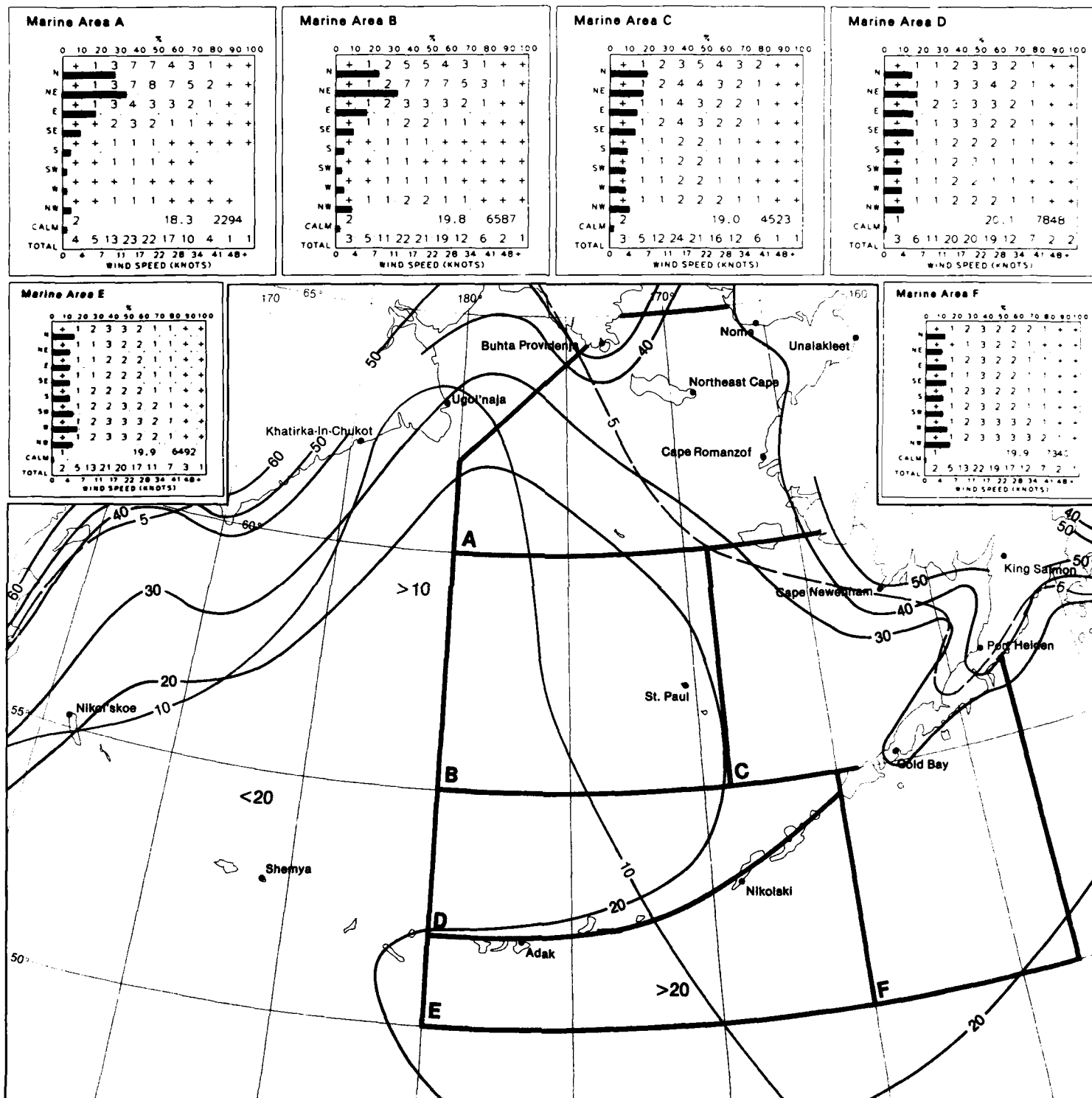


11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

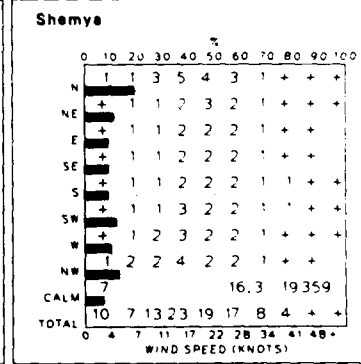
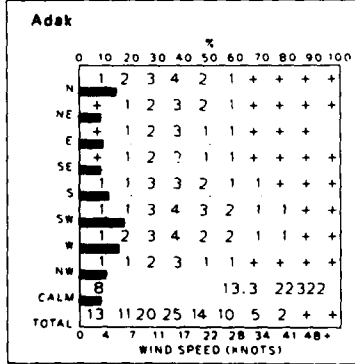
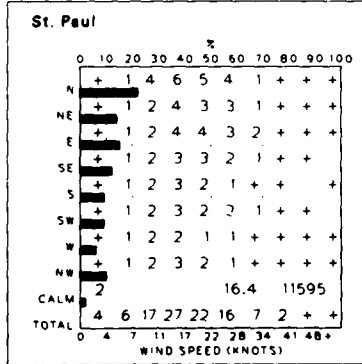
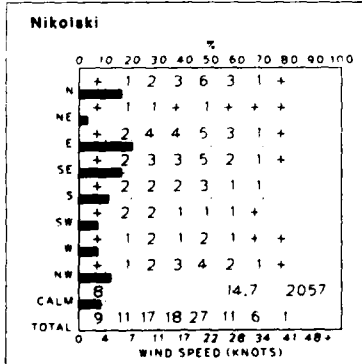
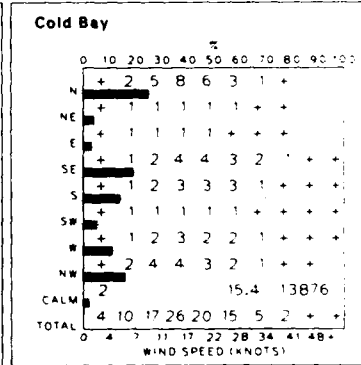
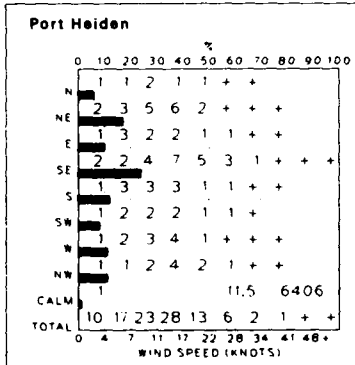
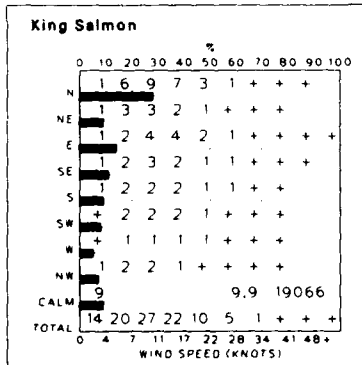
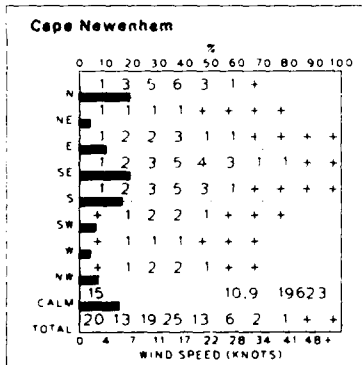
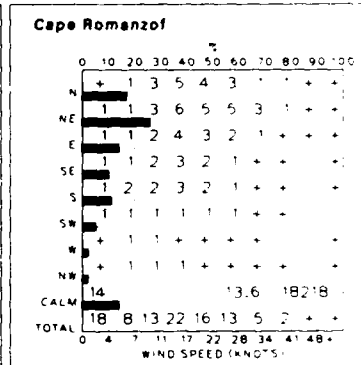
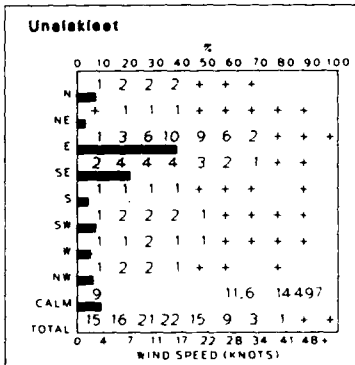
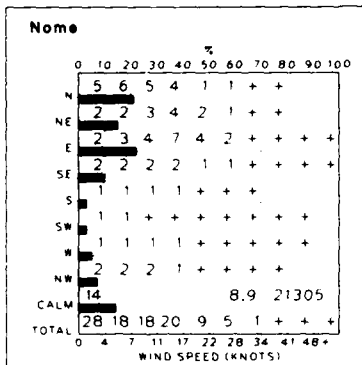
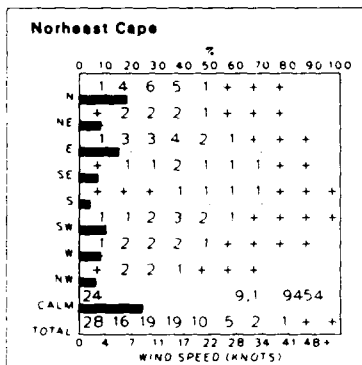
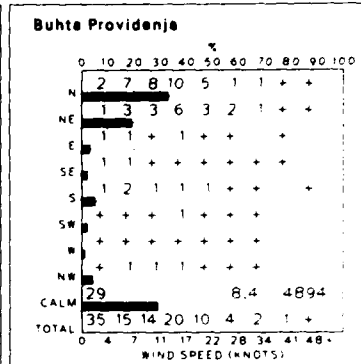
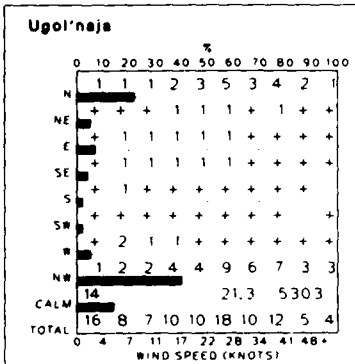
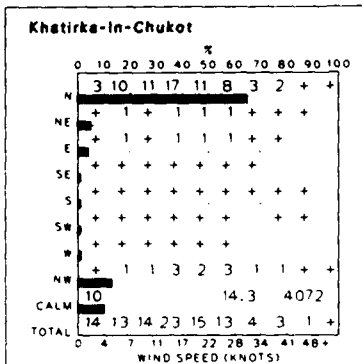
January

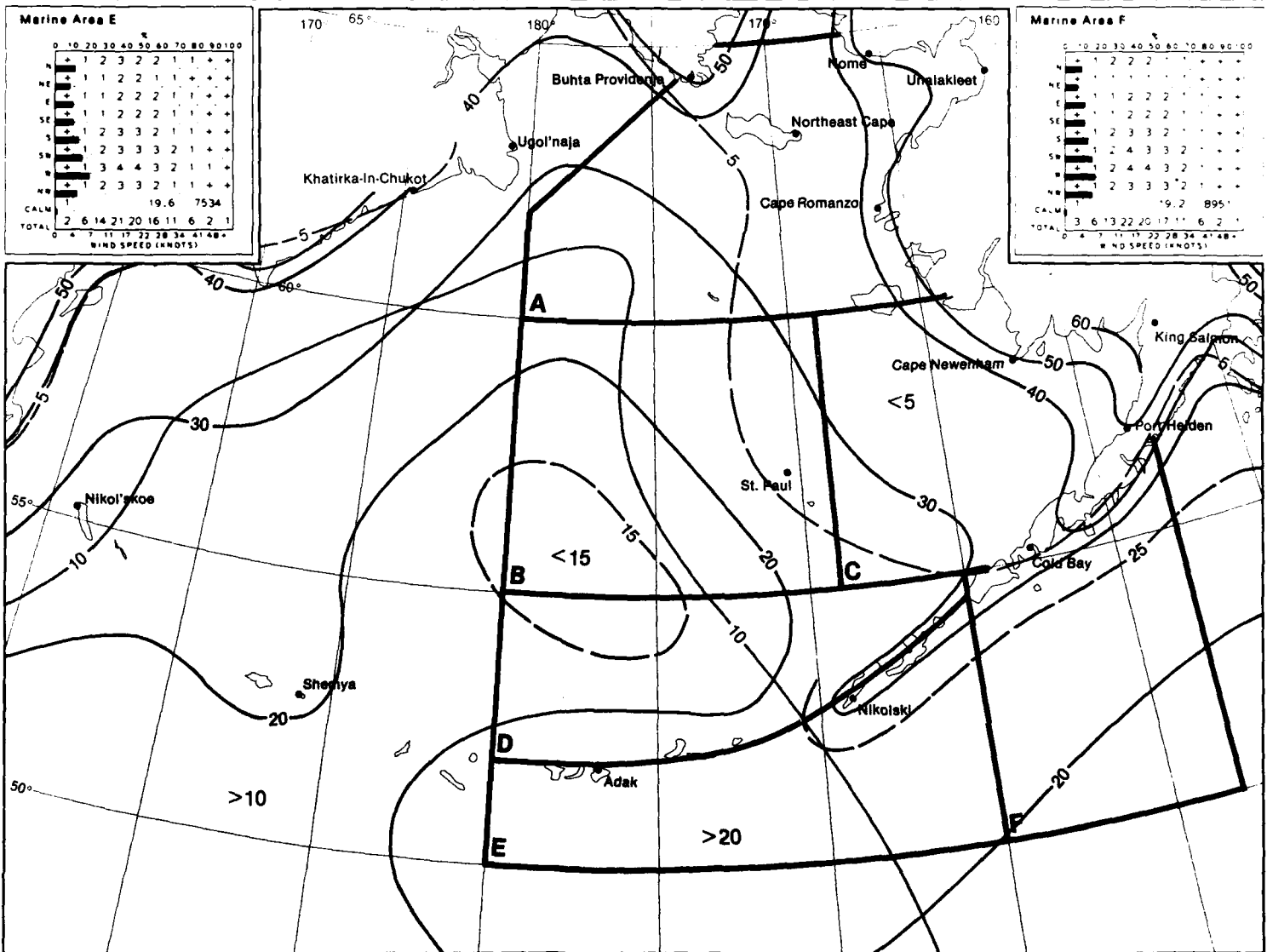
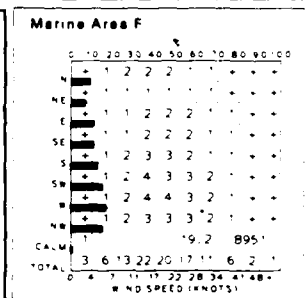
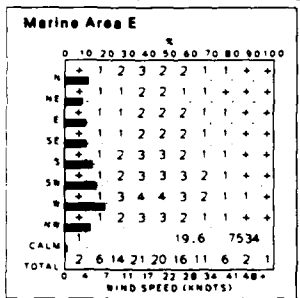
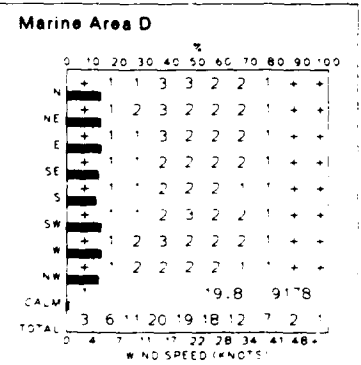
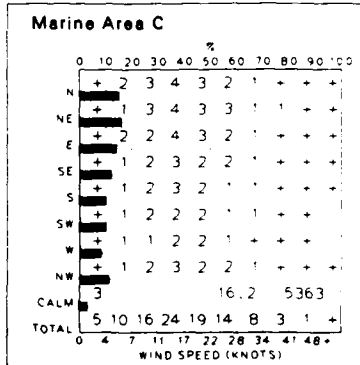
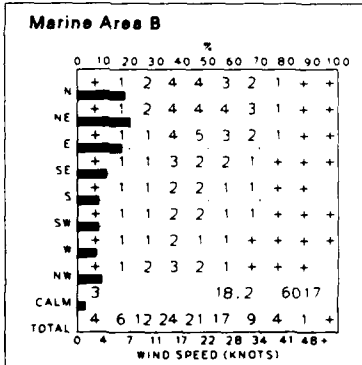
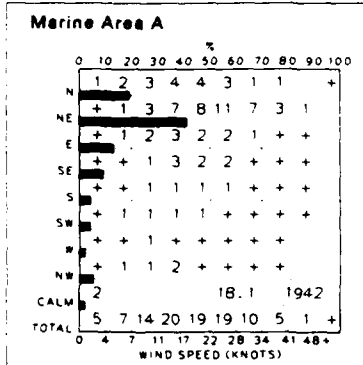





11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

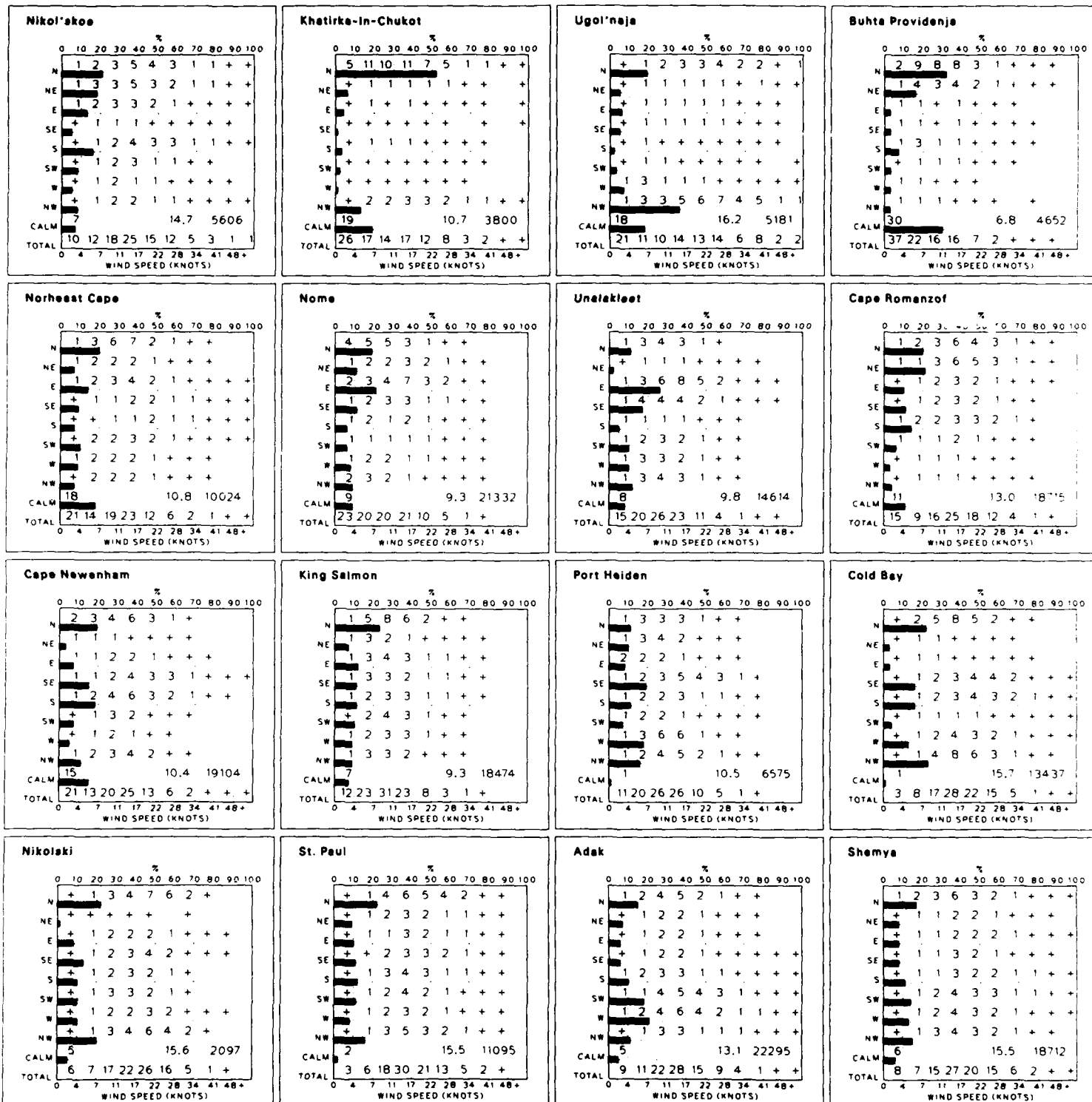
February





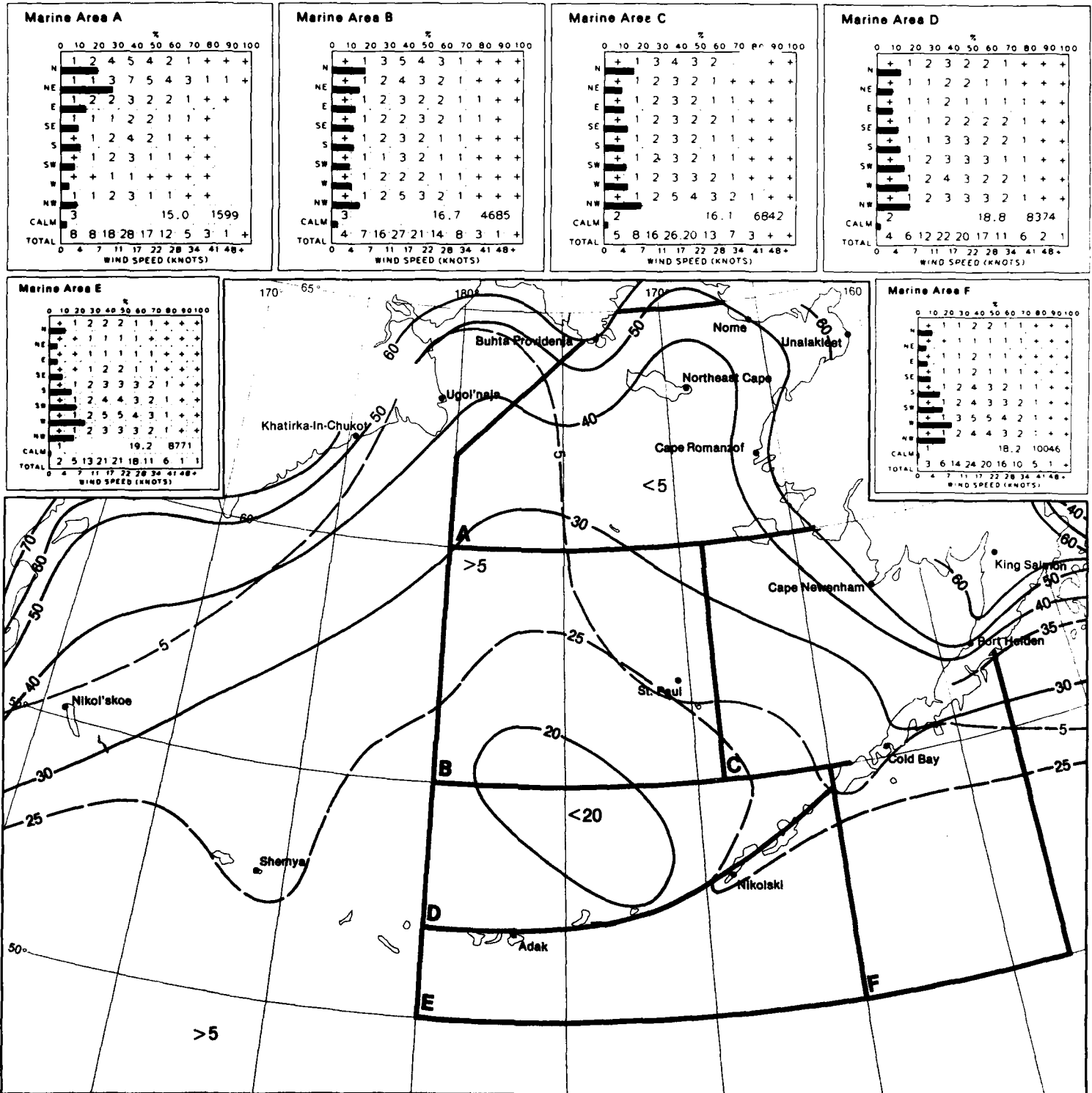
11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

March



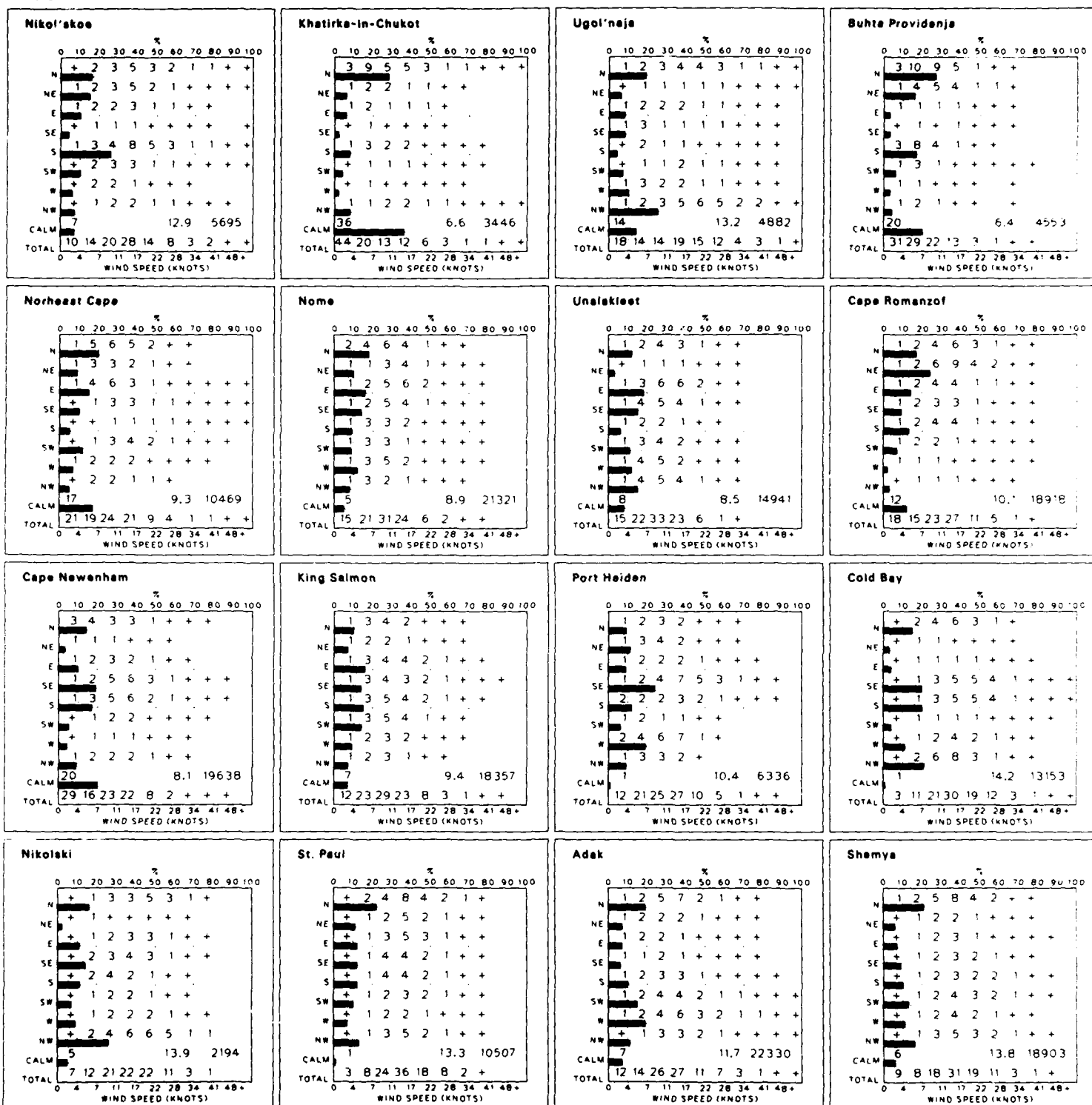
April

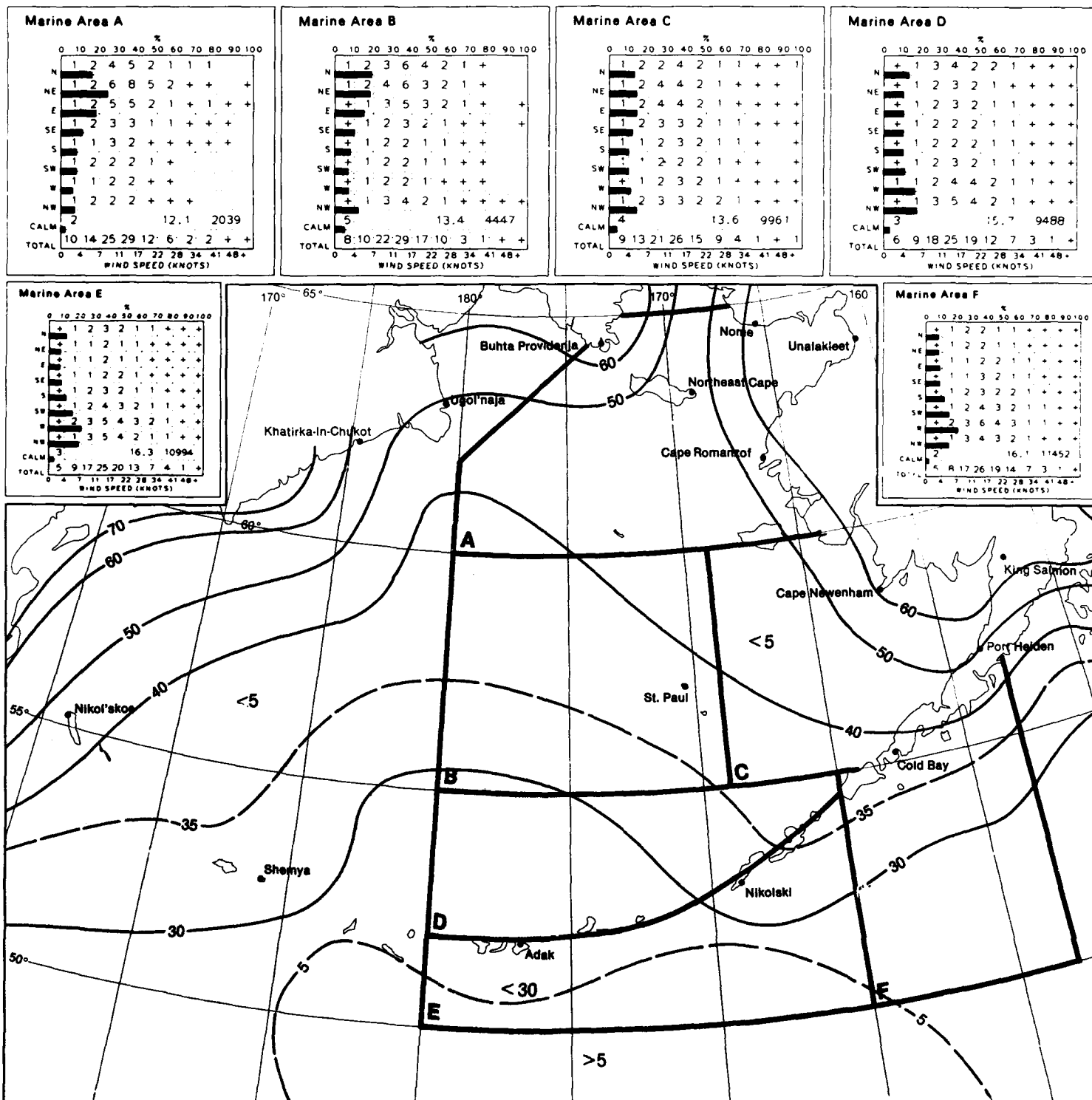
11 Wind Speed and Direction



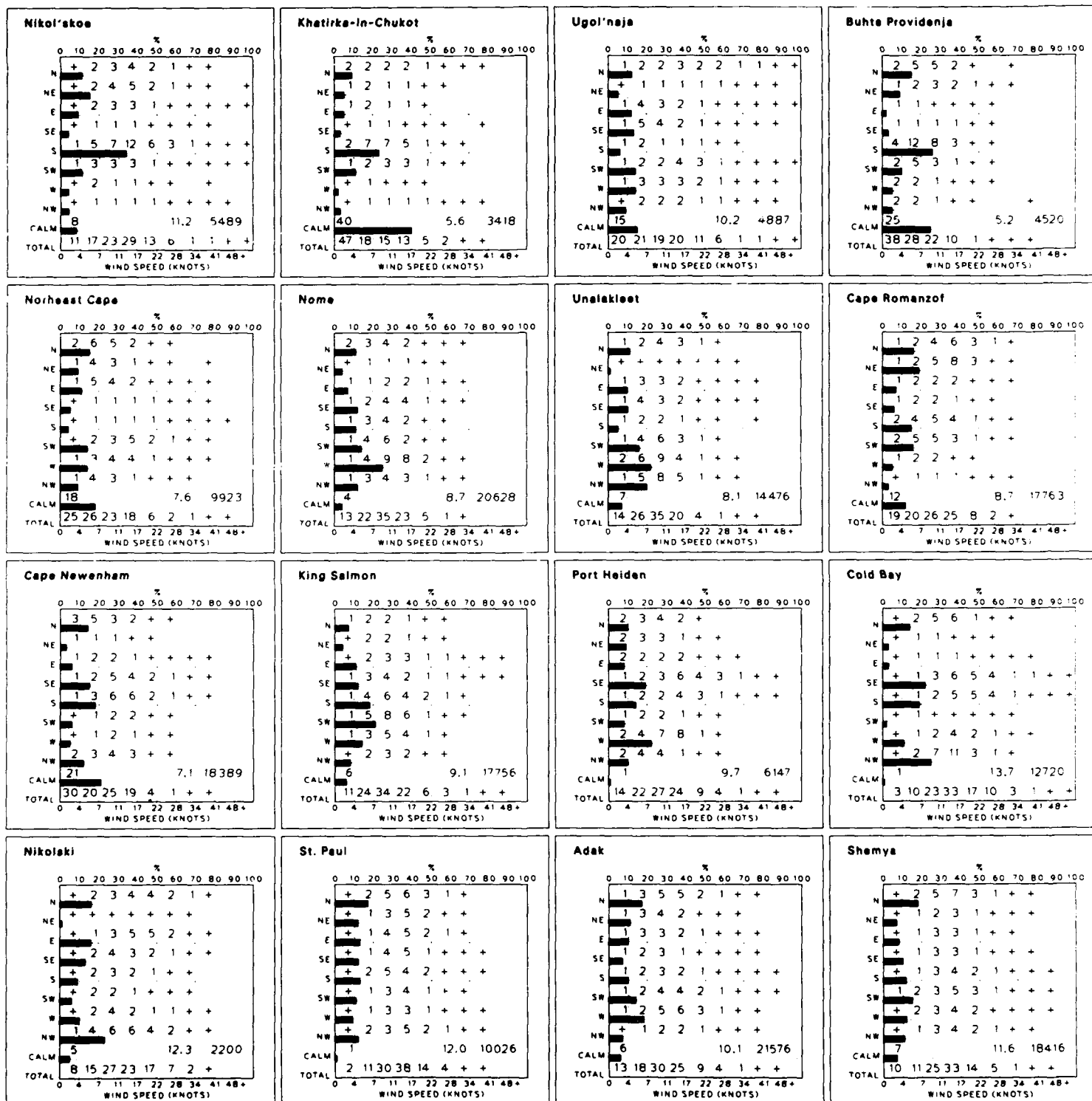
11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

April



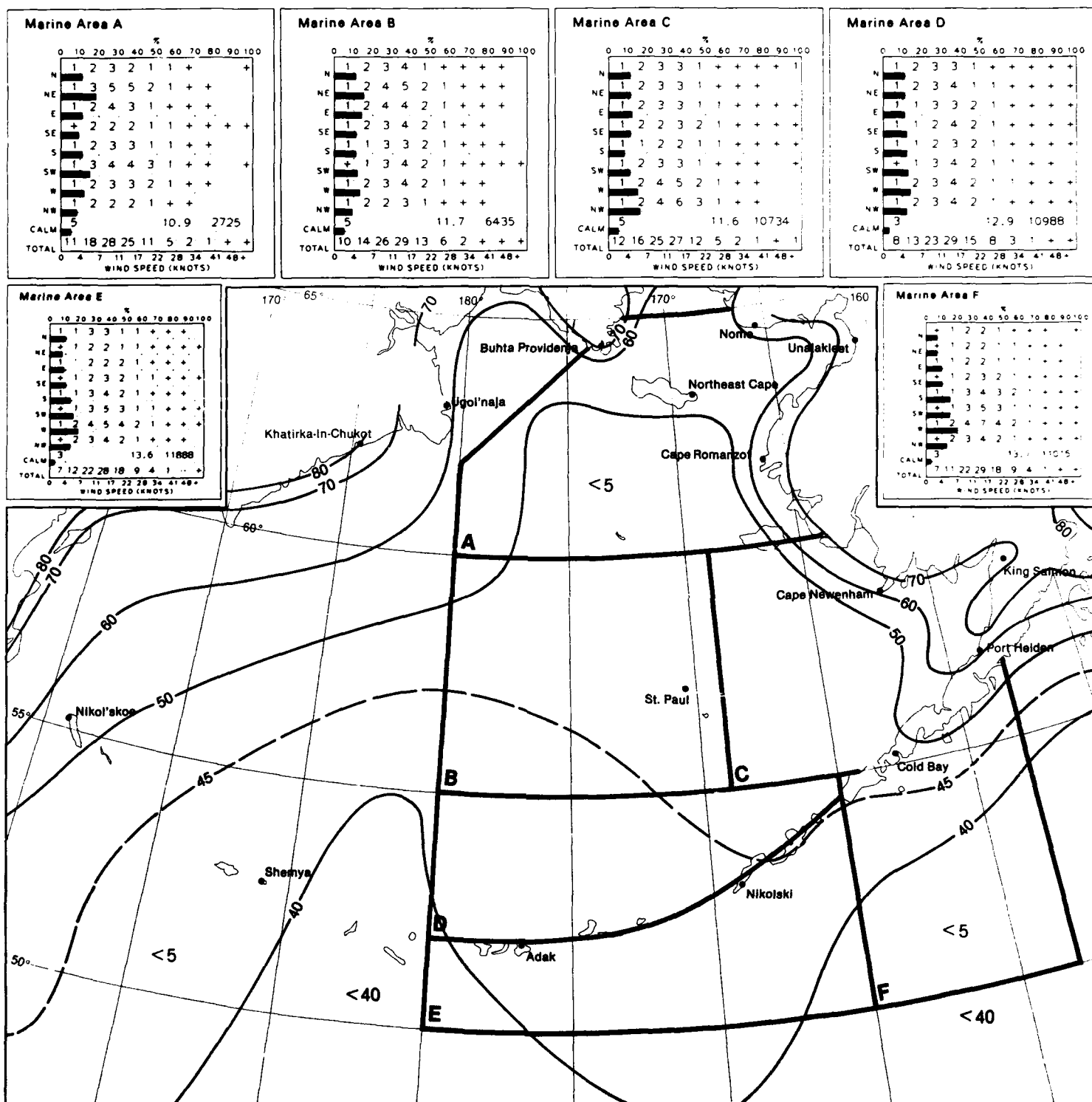




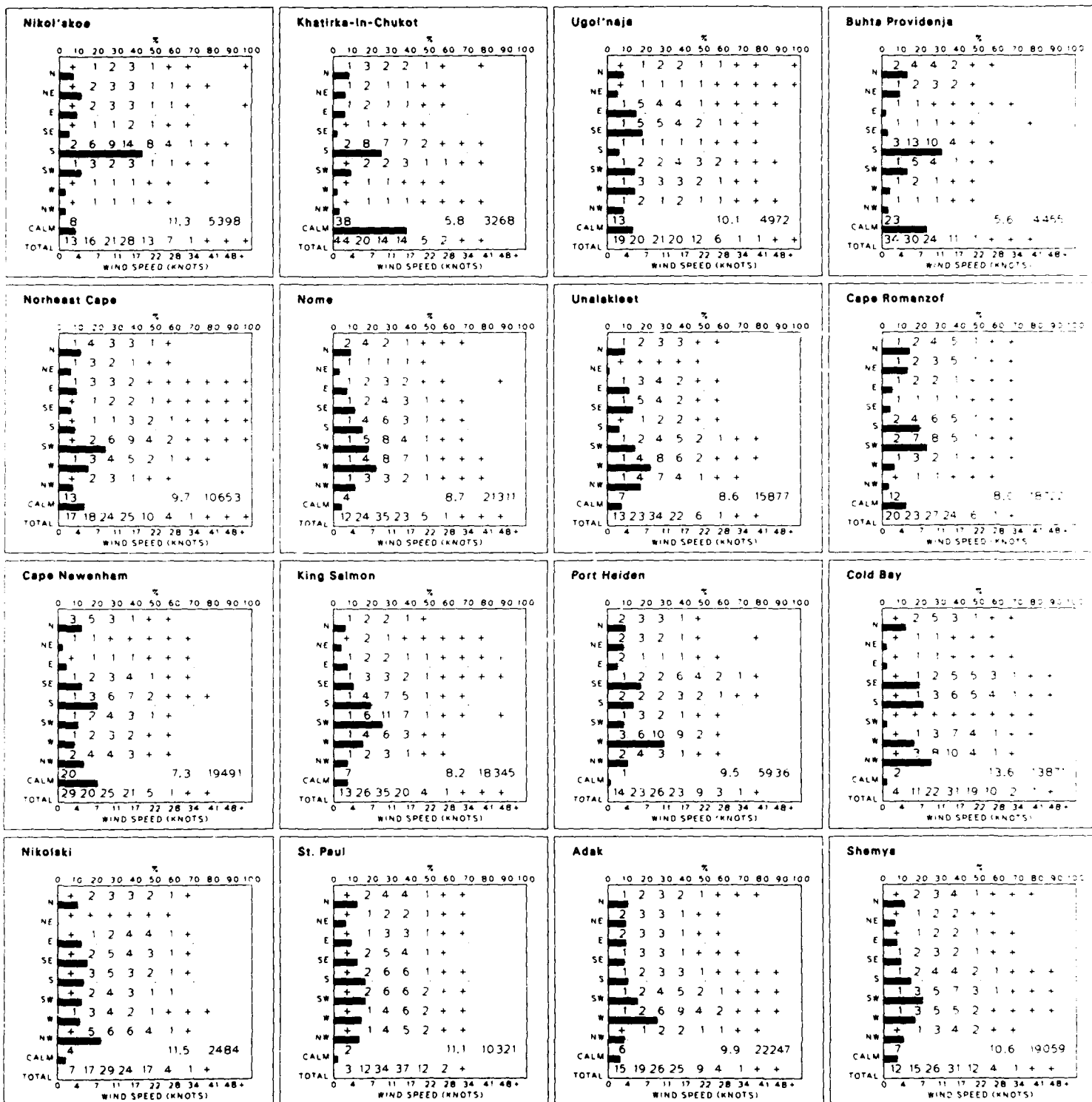


June

11 Wind Speed and Direction

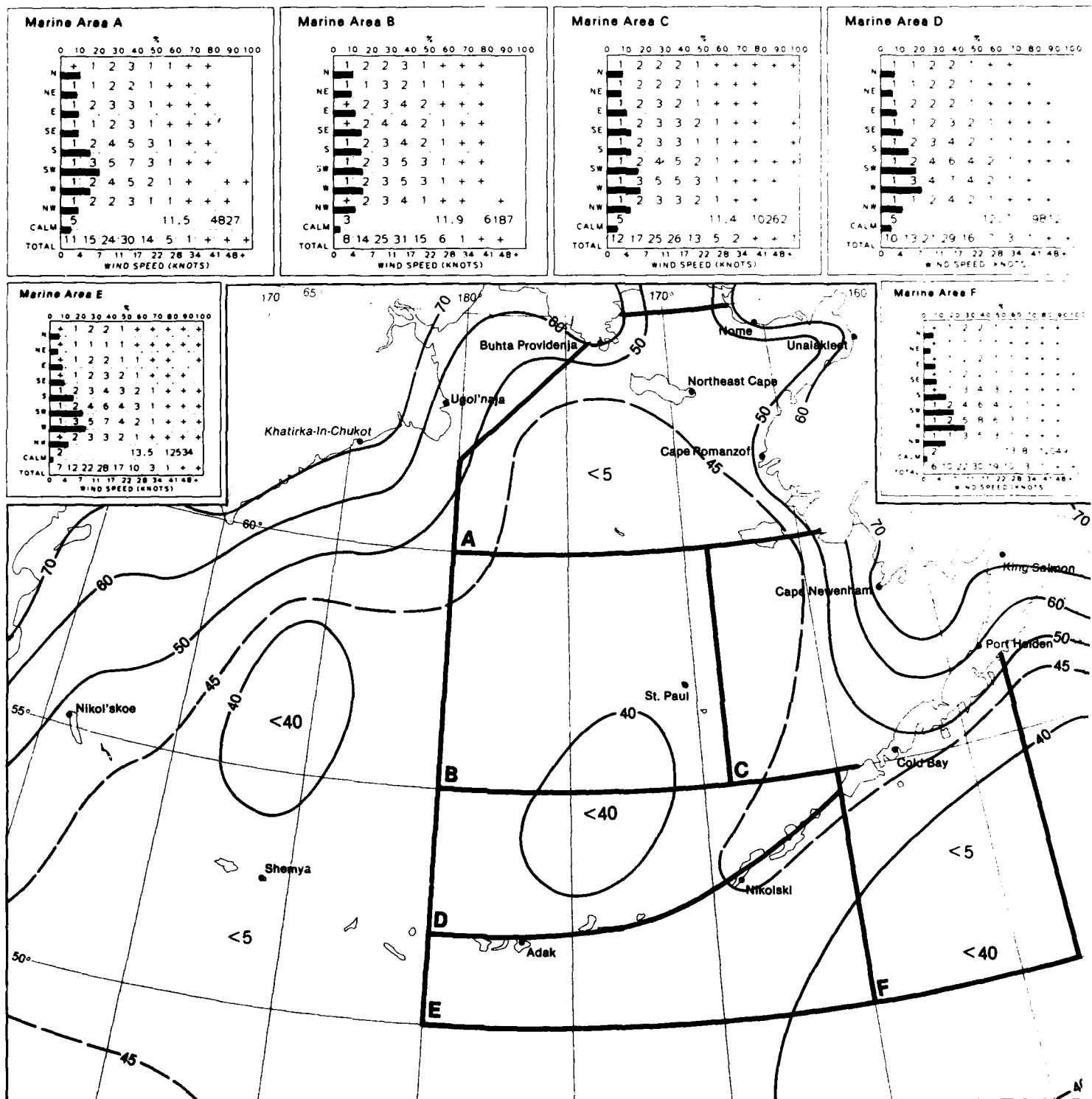
11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

June

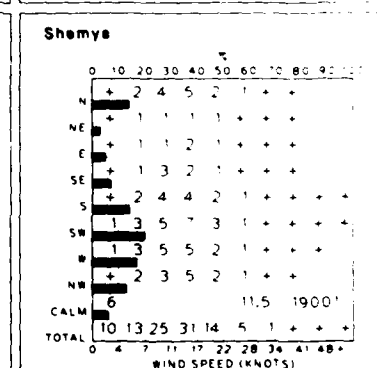
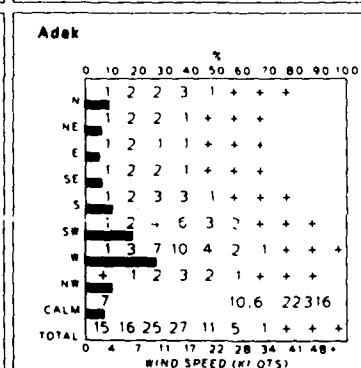
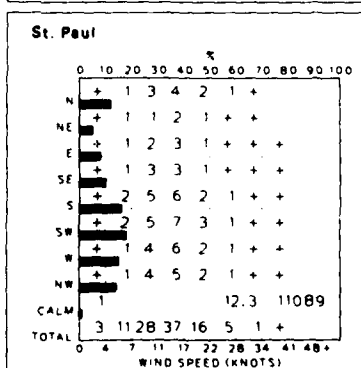
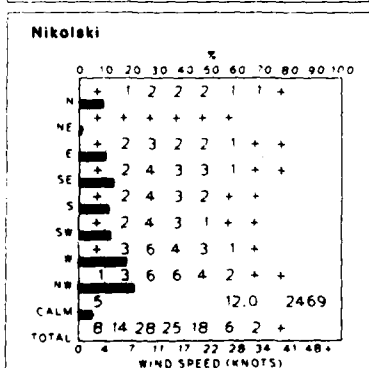
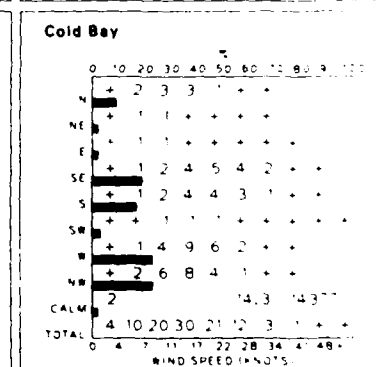
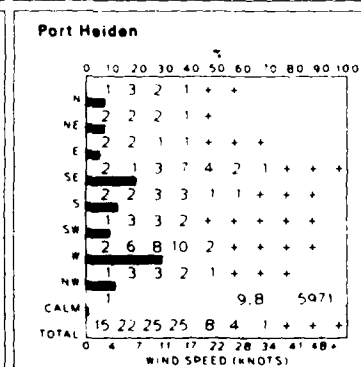
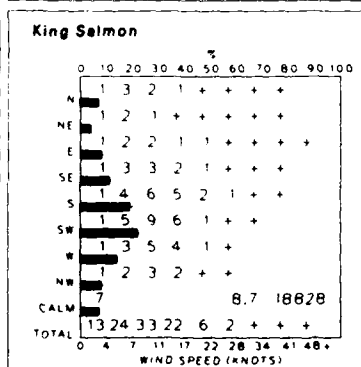
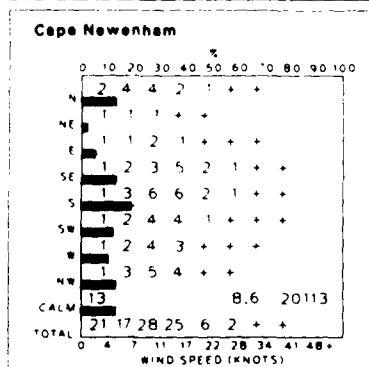
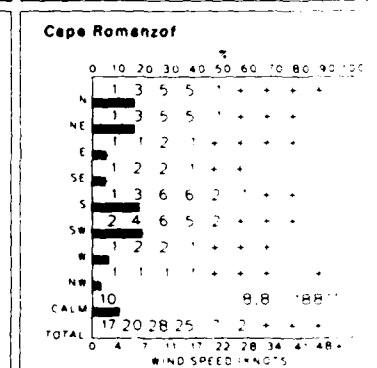
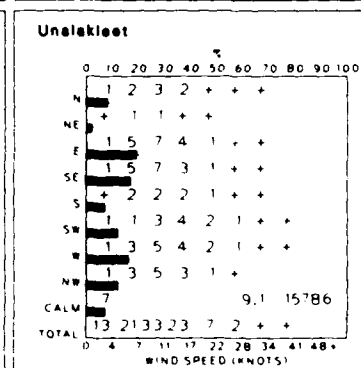
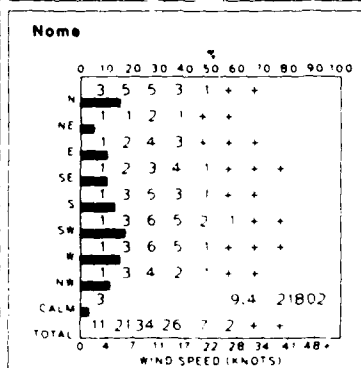
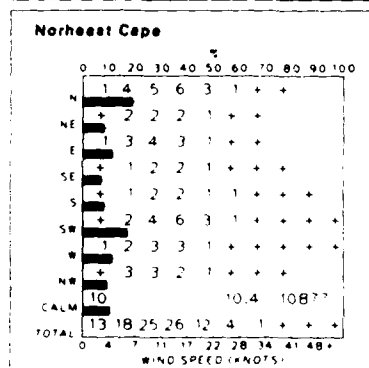
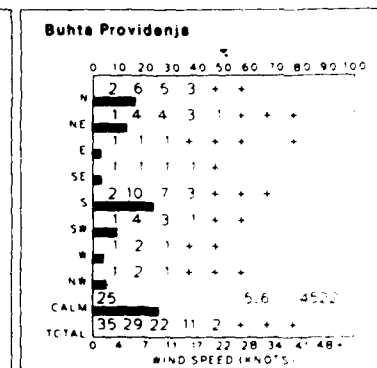
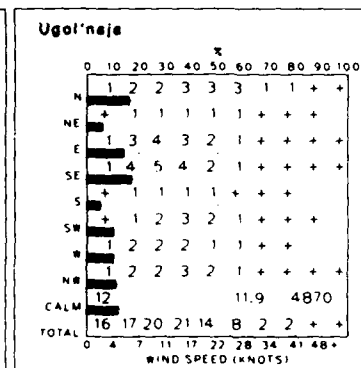
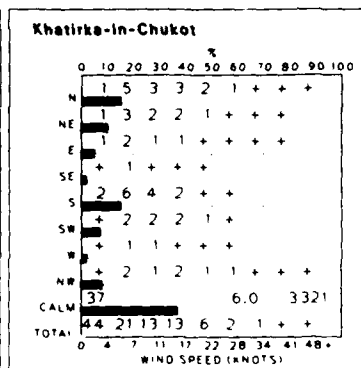


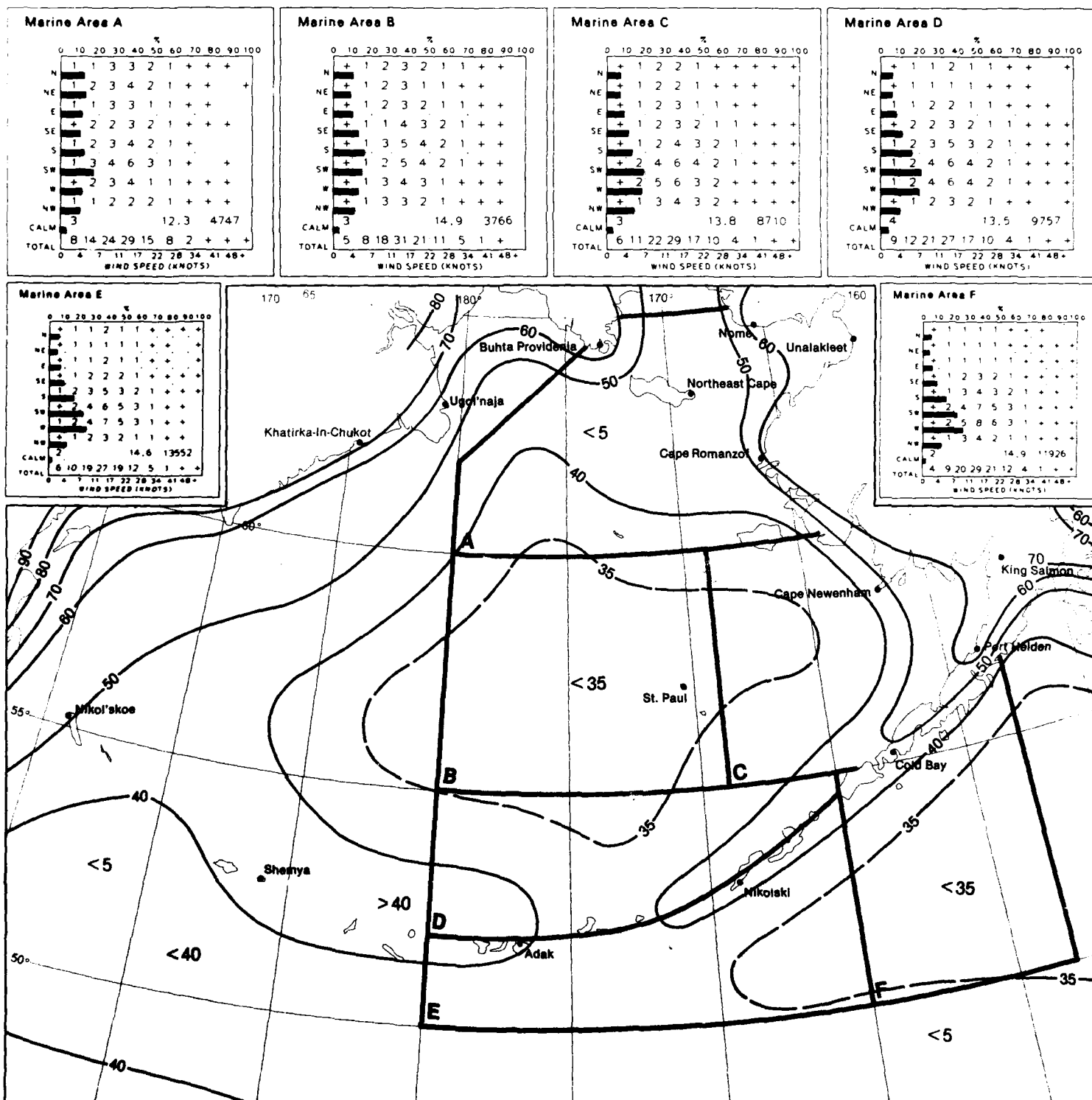
July

11 Wind Speed and Direction


11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

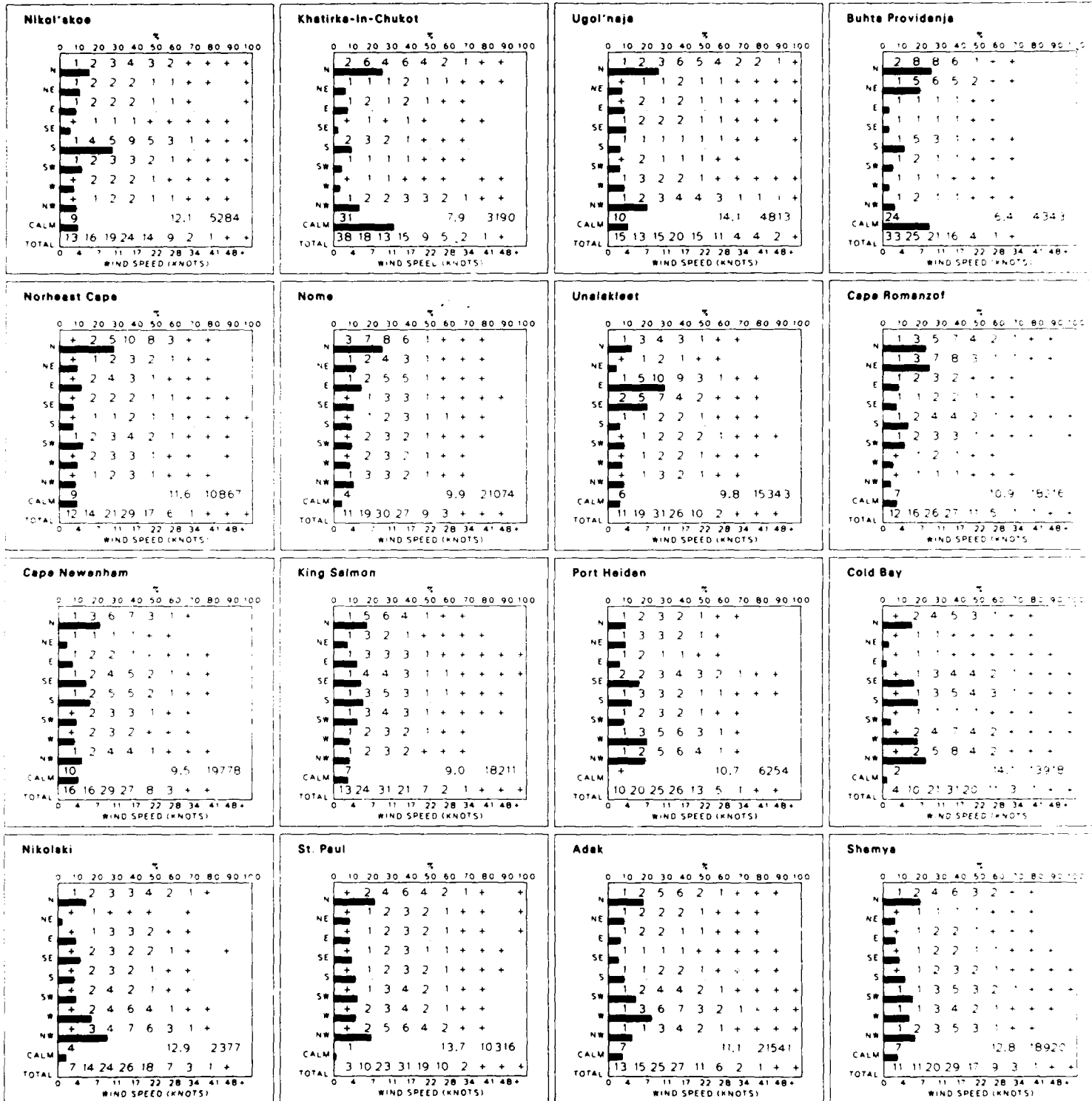
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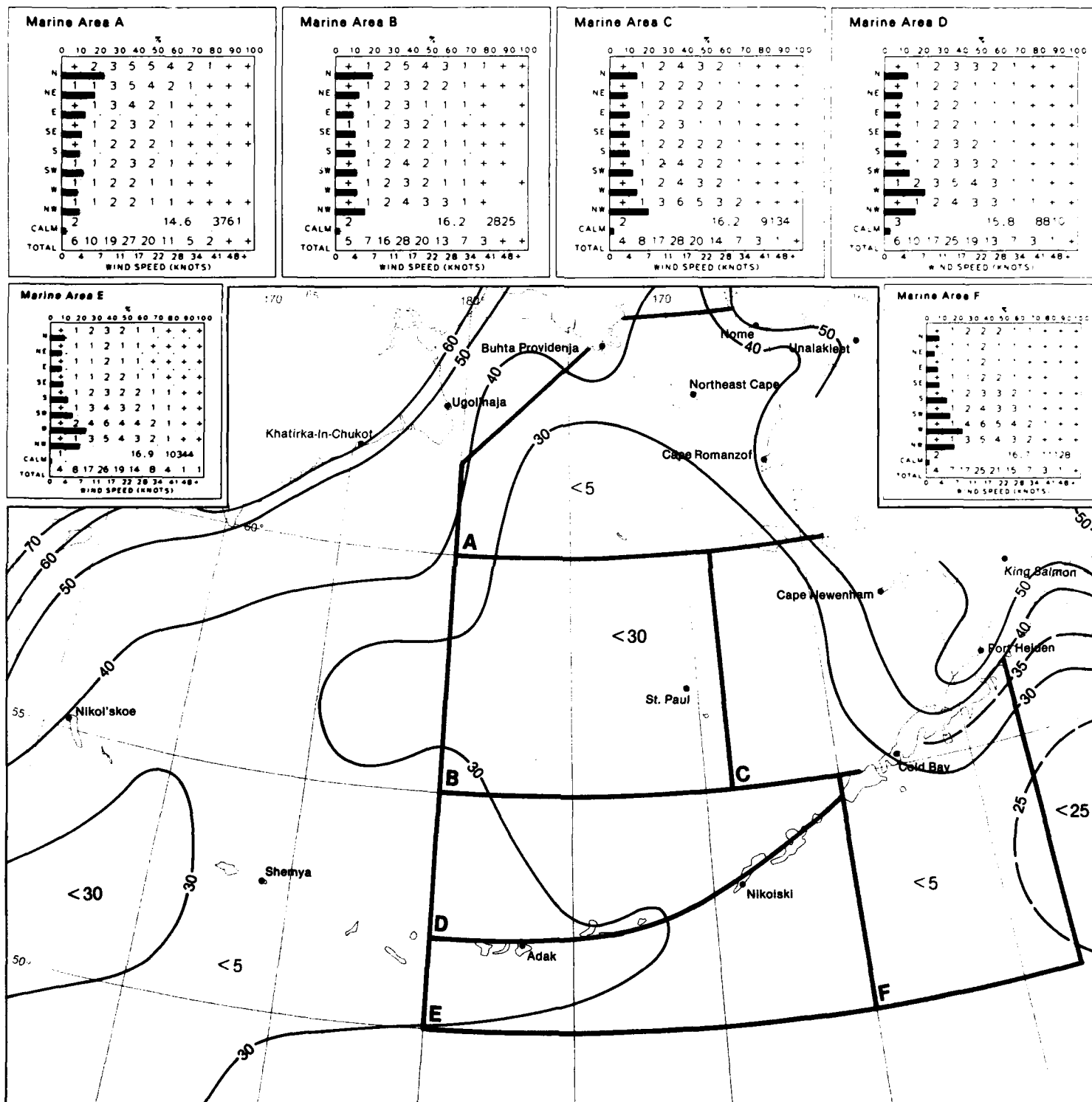




11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

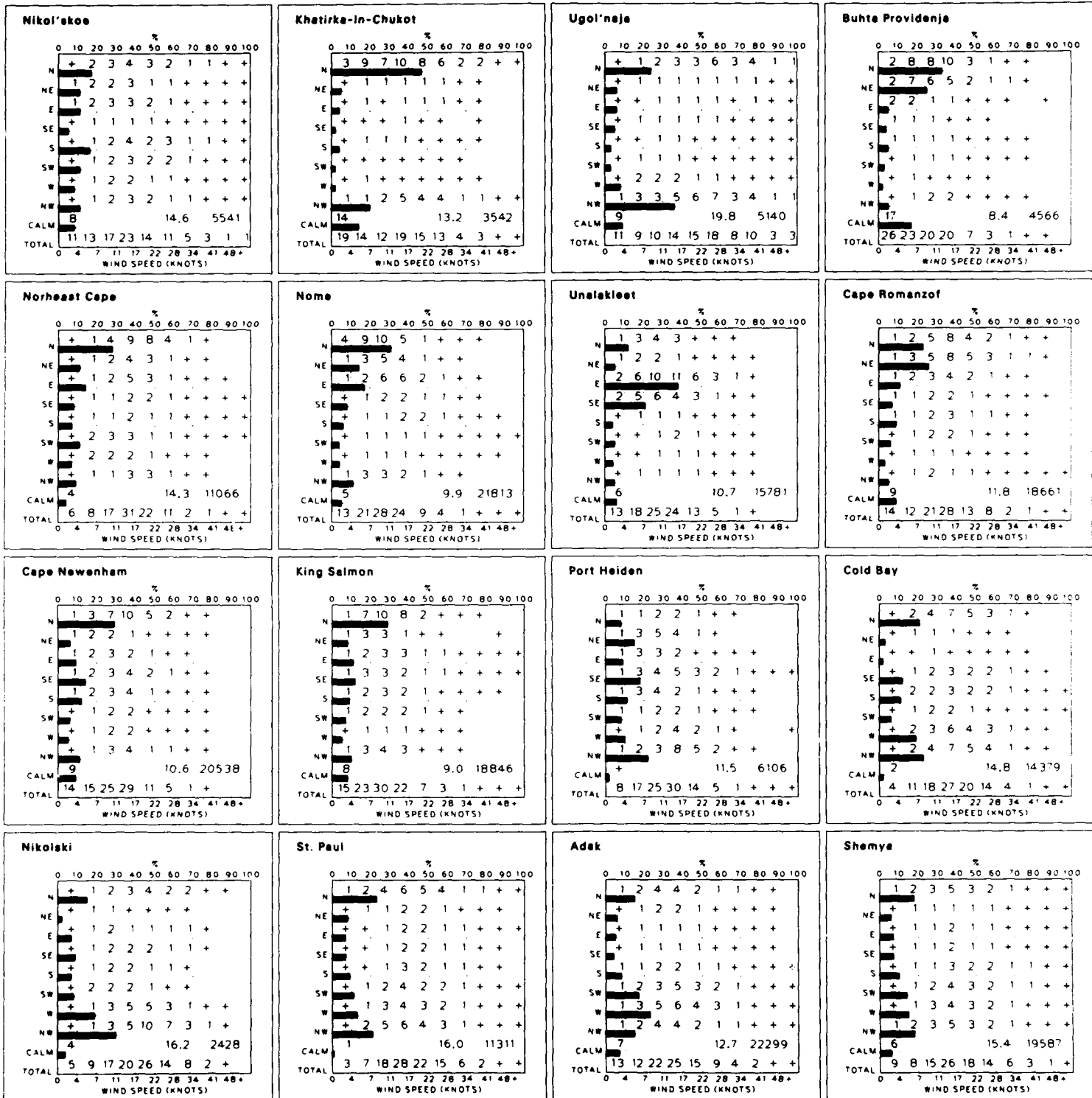
August




11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

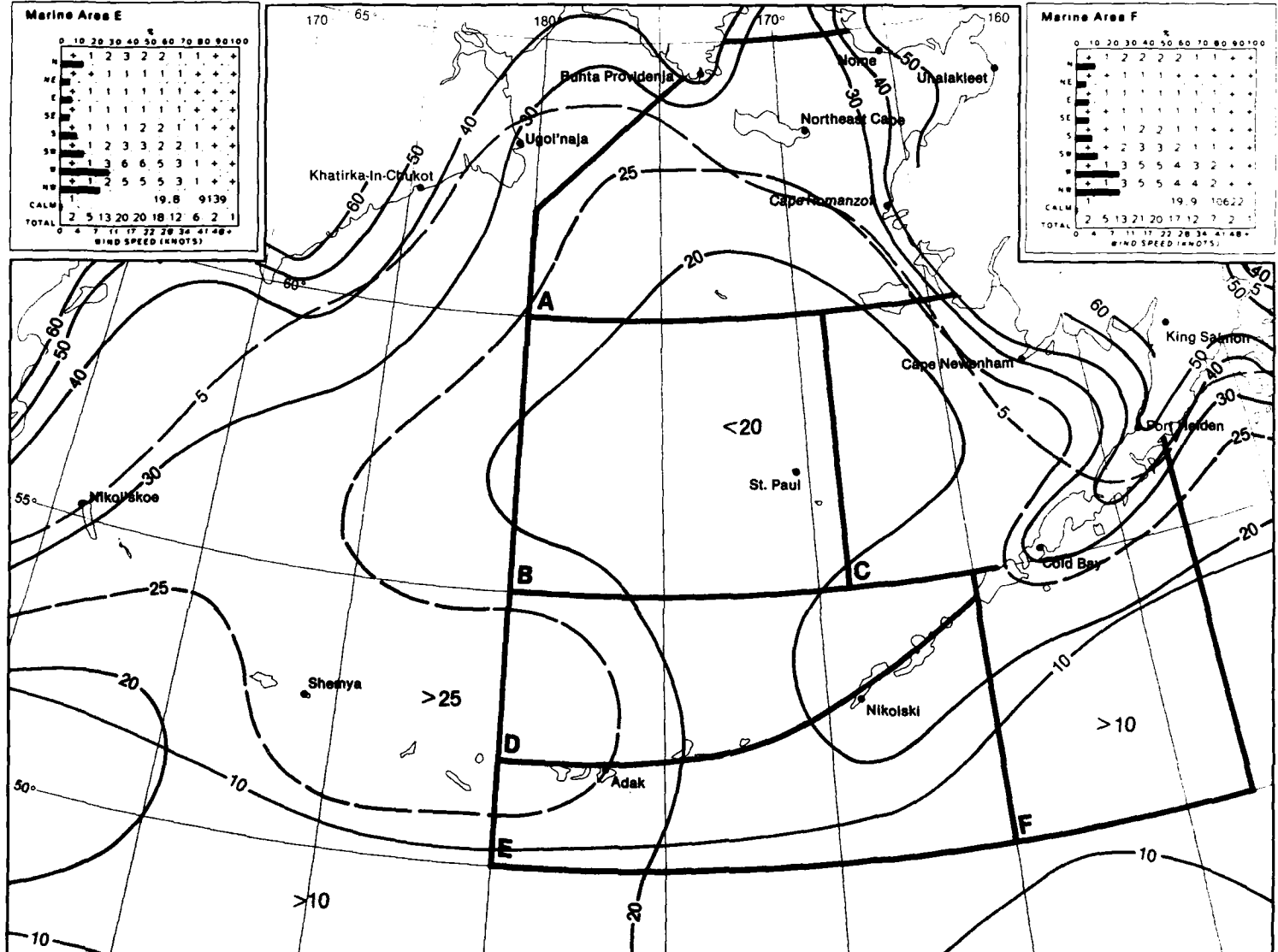
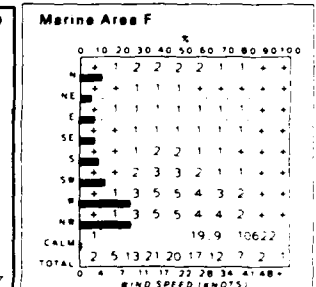
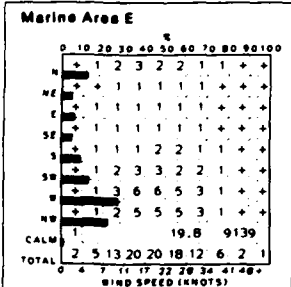
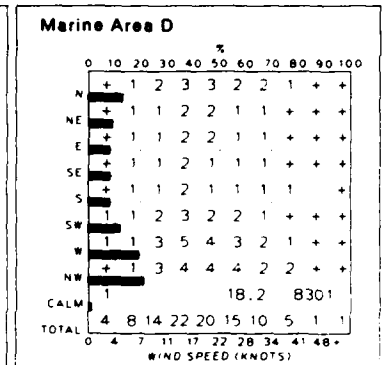
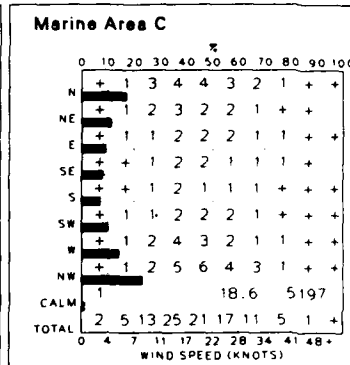
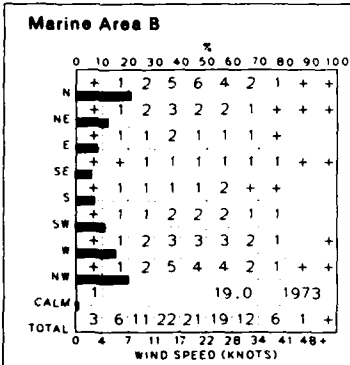
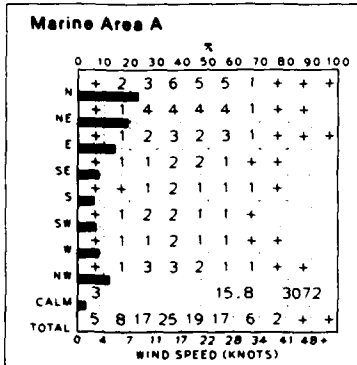
September





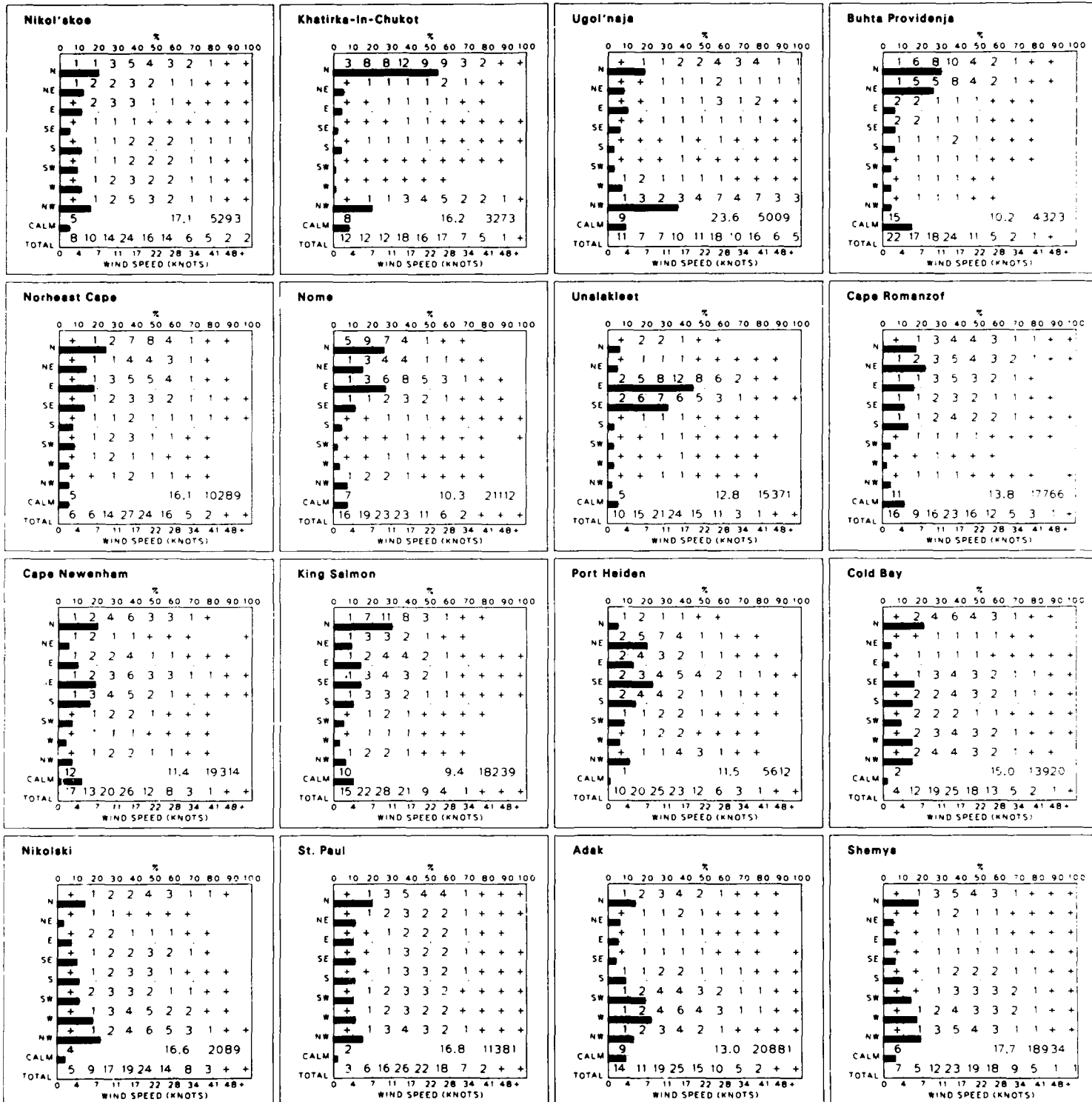
October

11 Wind Speed and Direction



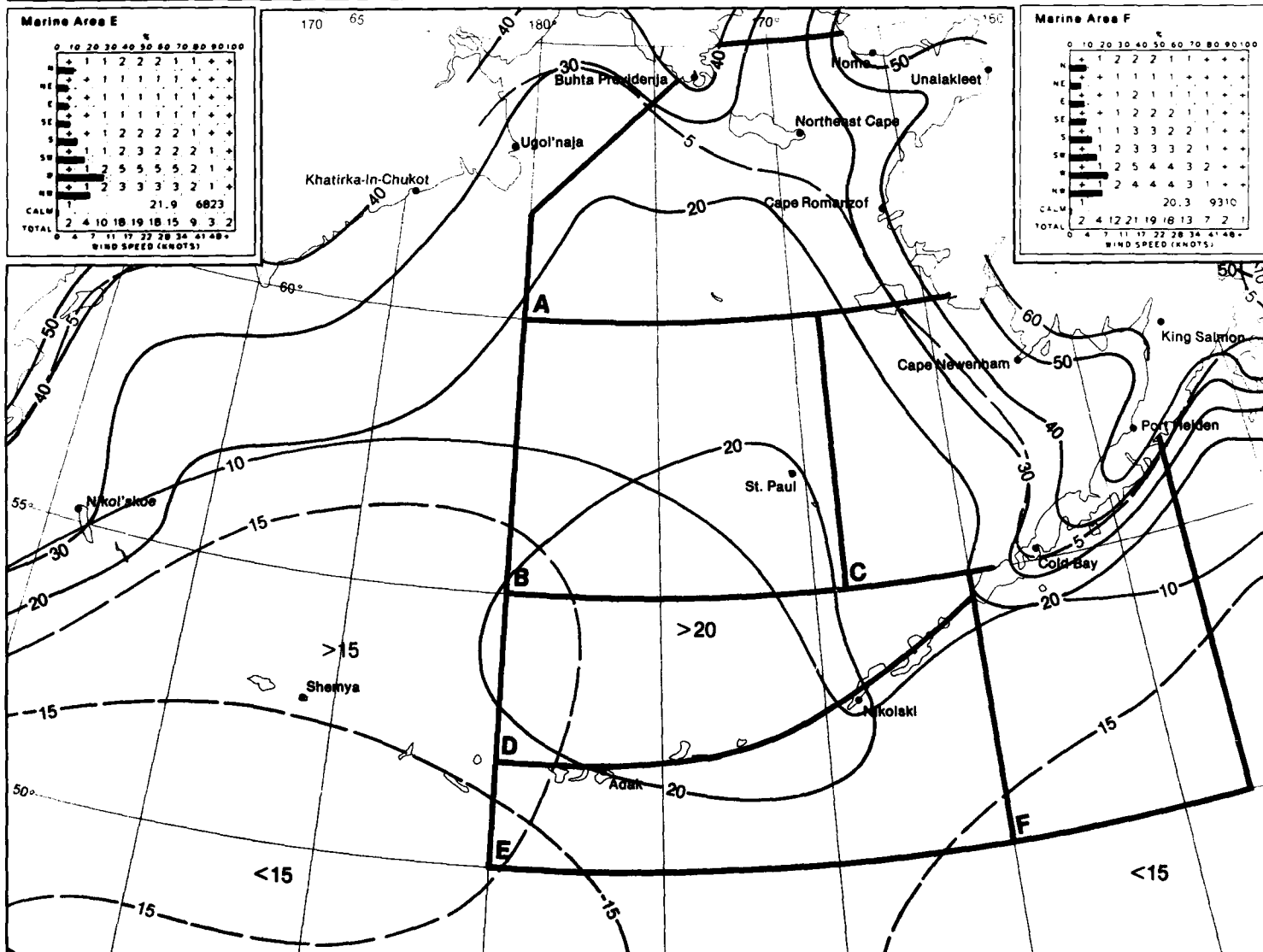
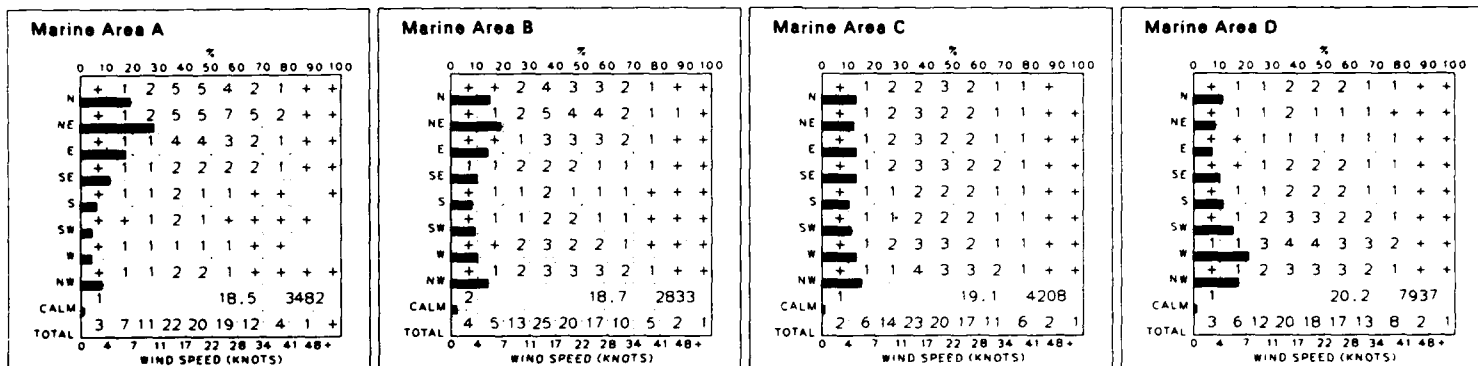
11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

October



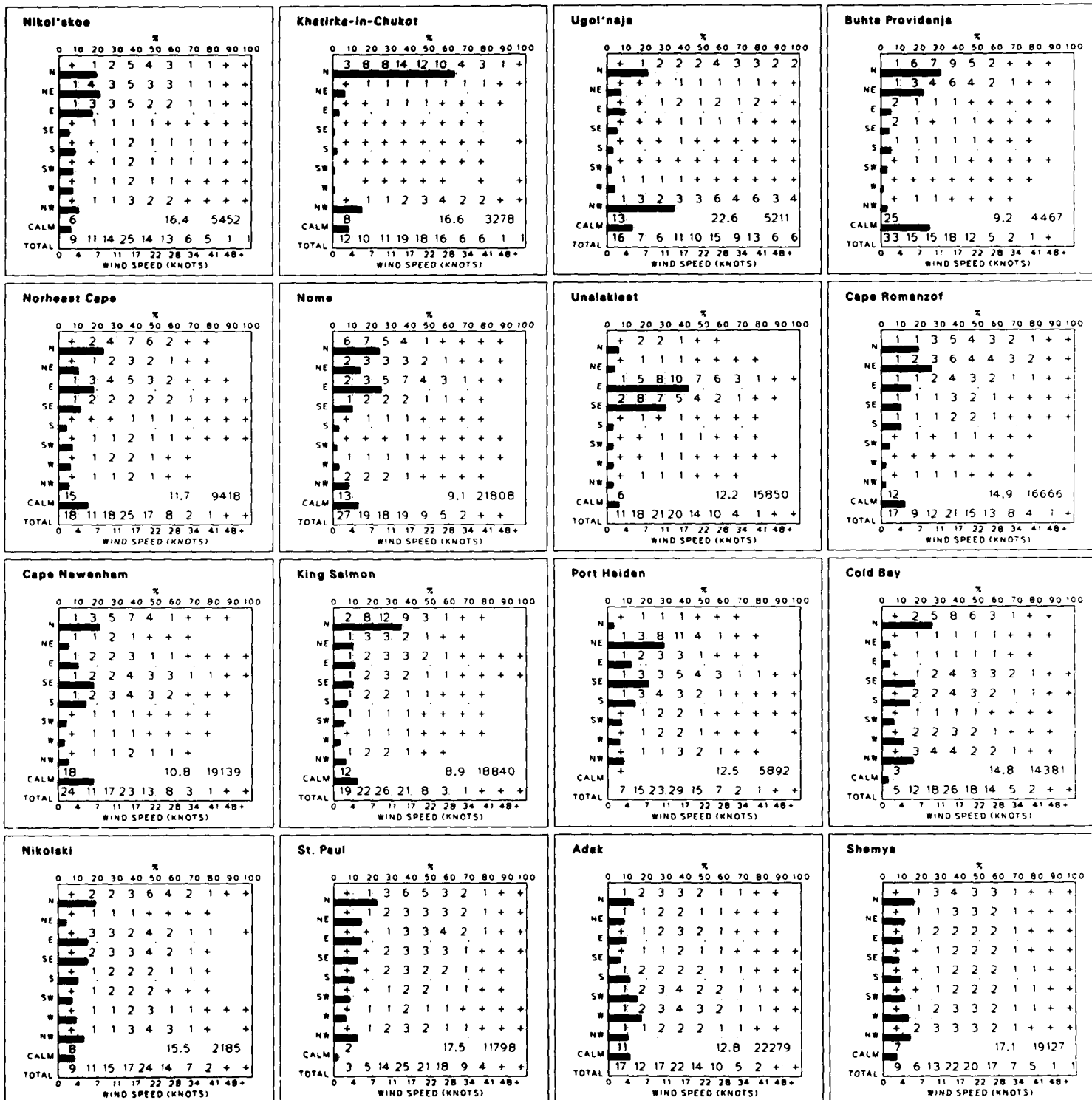
November

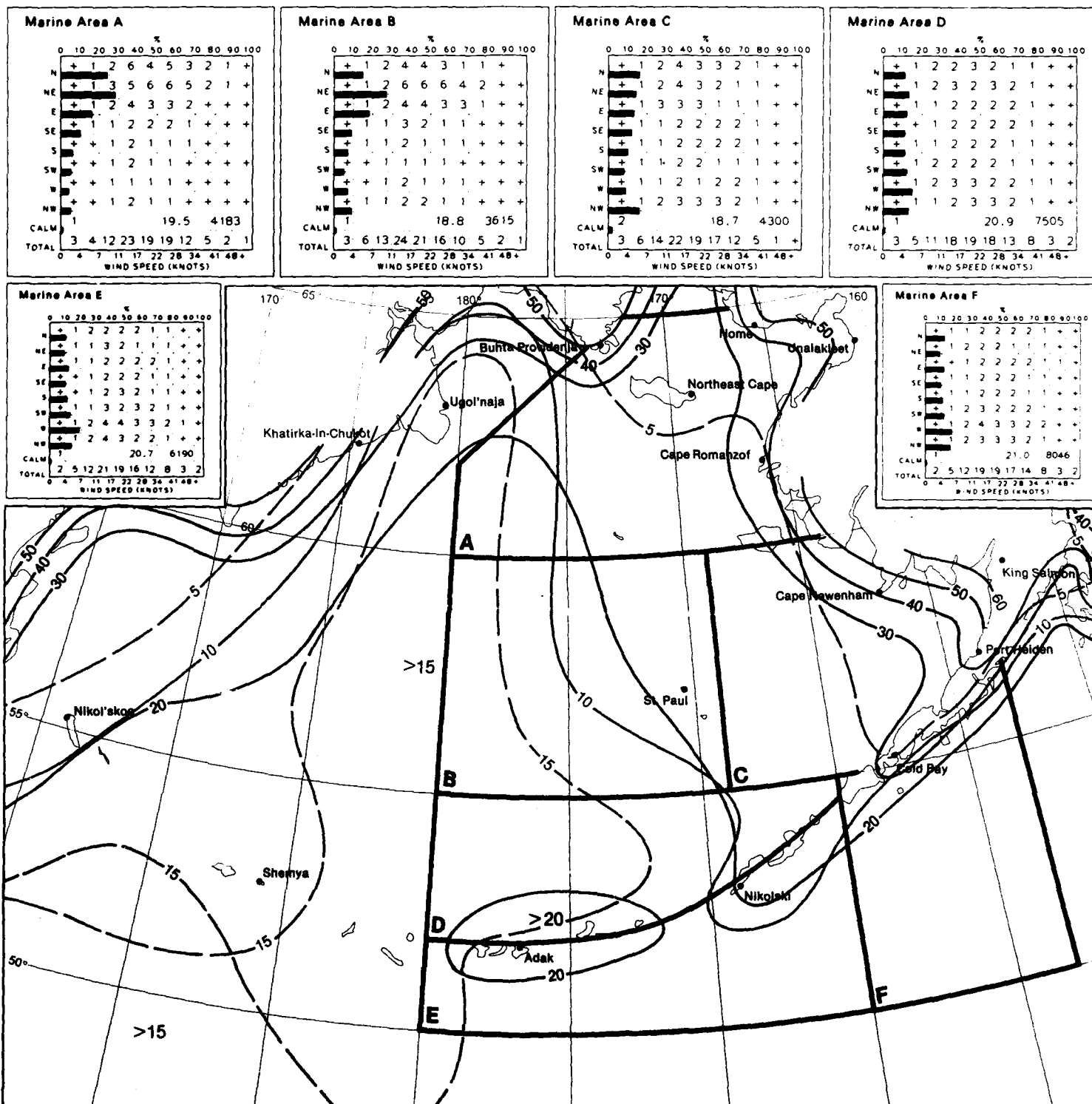
11 Wind Speed and Direction



11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

November





11 Wind Speed  $\leq 10$  and  $\geq 34$  Knots

December



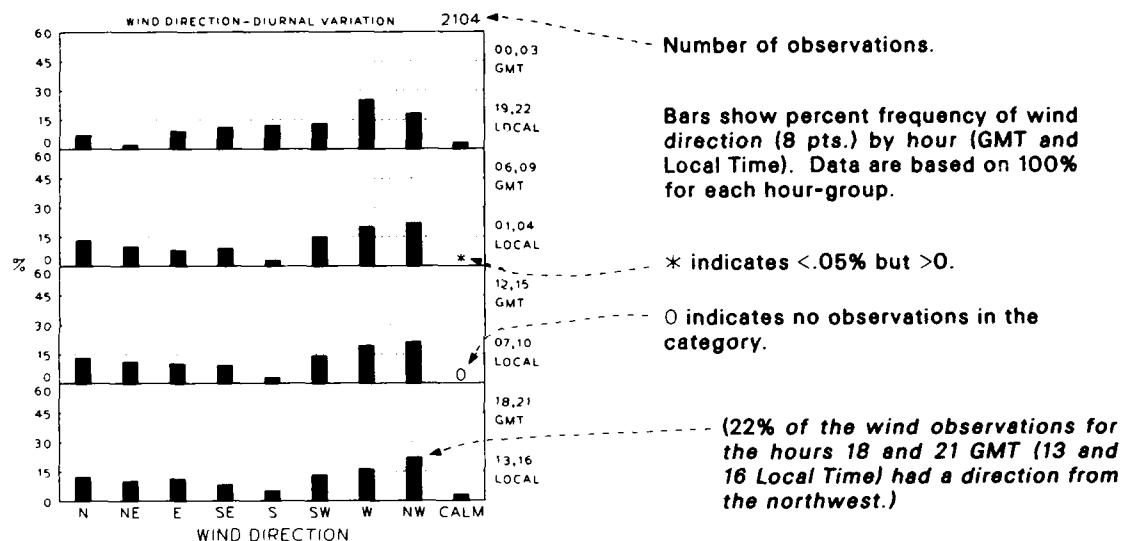
## Map 12. Wind speed 11-21 and 22-33 knots

BLACK LINE – Percent frequency of wind speed 11–21 knots.

BLUE LINE – Percent frequency of wind speed 22–33 knots.

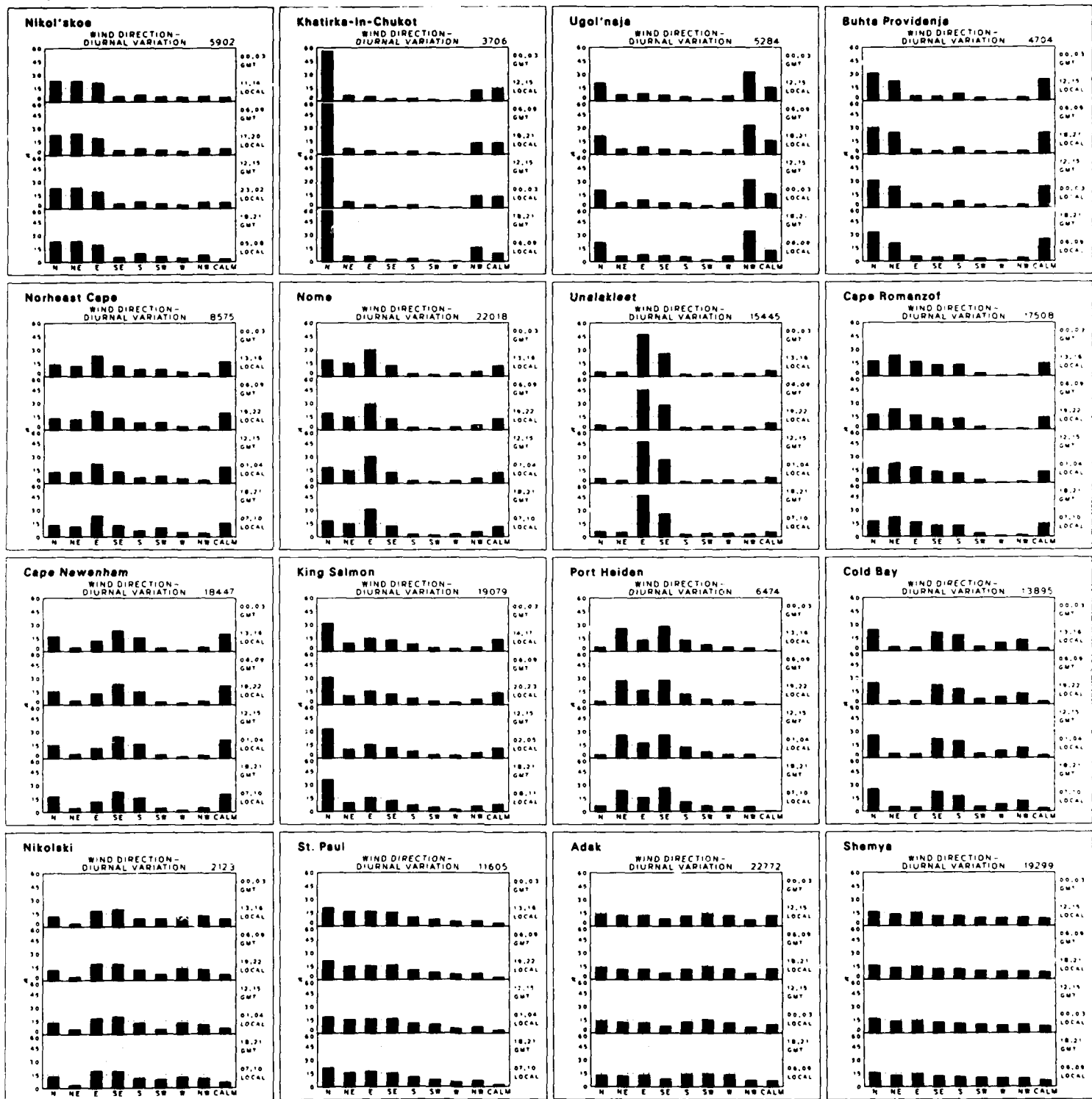
Albers Equal-Area Conic Projection

### Graphs: Wind direction/diurnal variation



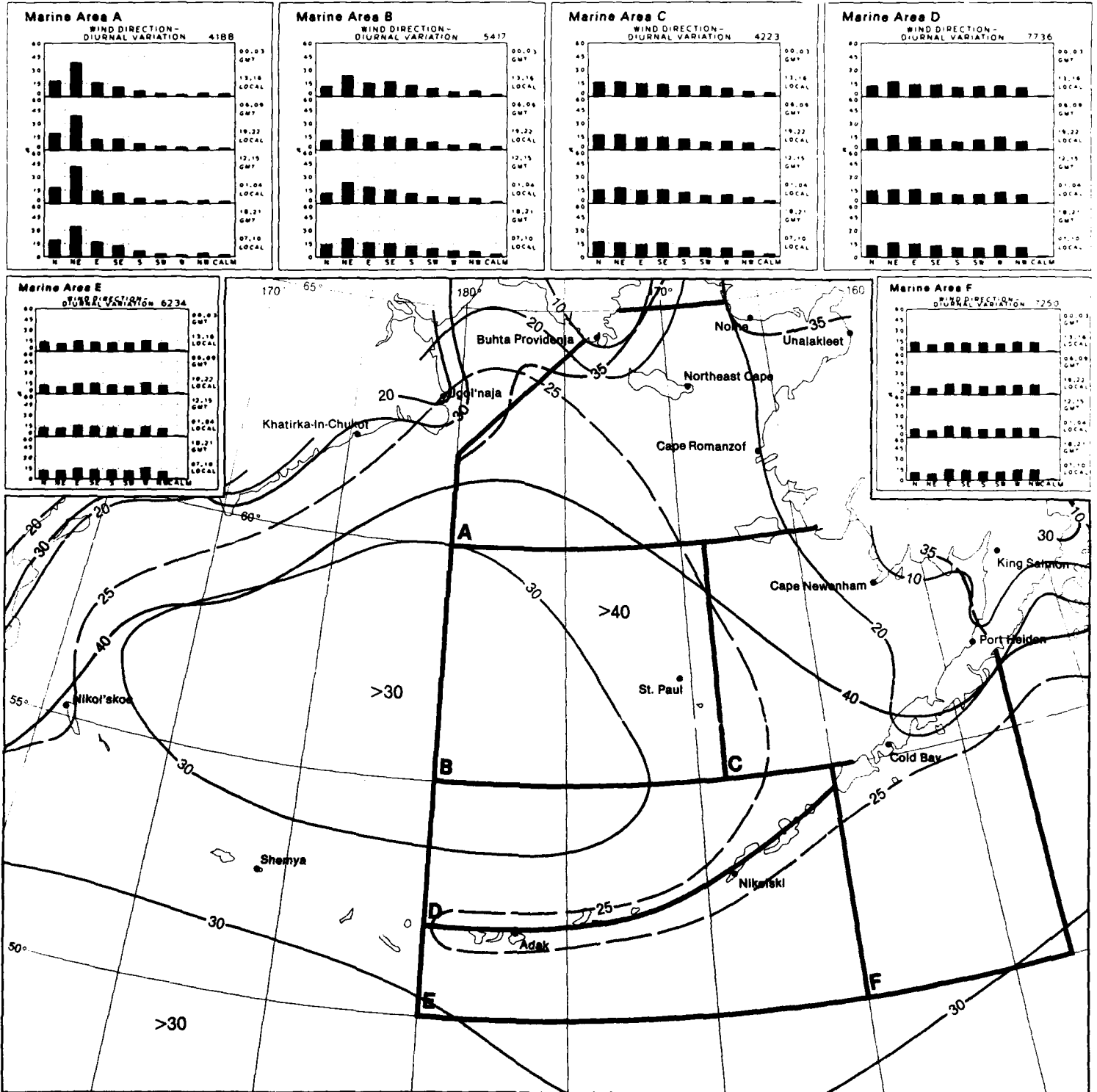
The historical marine data file at the NCDC is made up of data collected and recorded since 1854 in several different units of measurement. Wind direction has been recorded over the years in the 16-, 32-, and 36-point scale. A reduced biasing system was employed in converting wind direction to the 8-point scale used in this atlas. This method attached weighting values to observations which overlap two different 8-point sectors and treats them as "fractional observation counts."





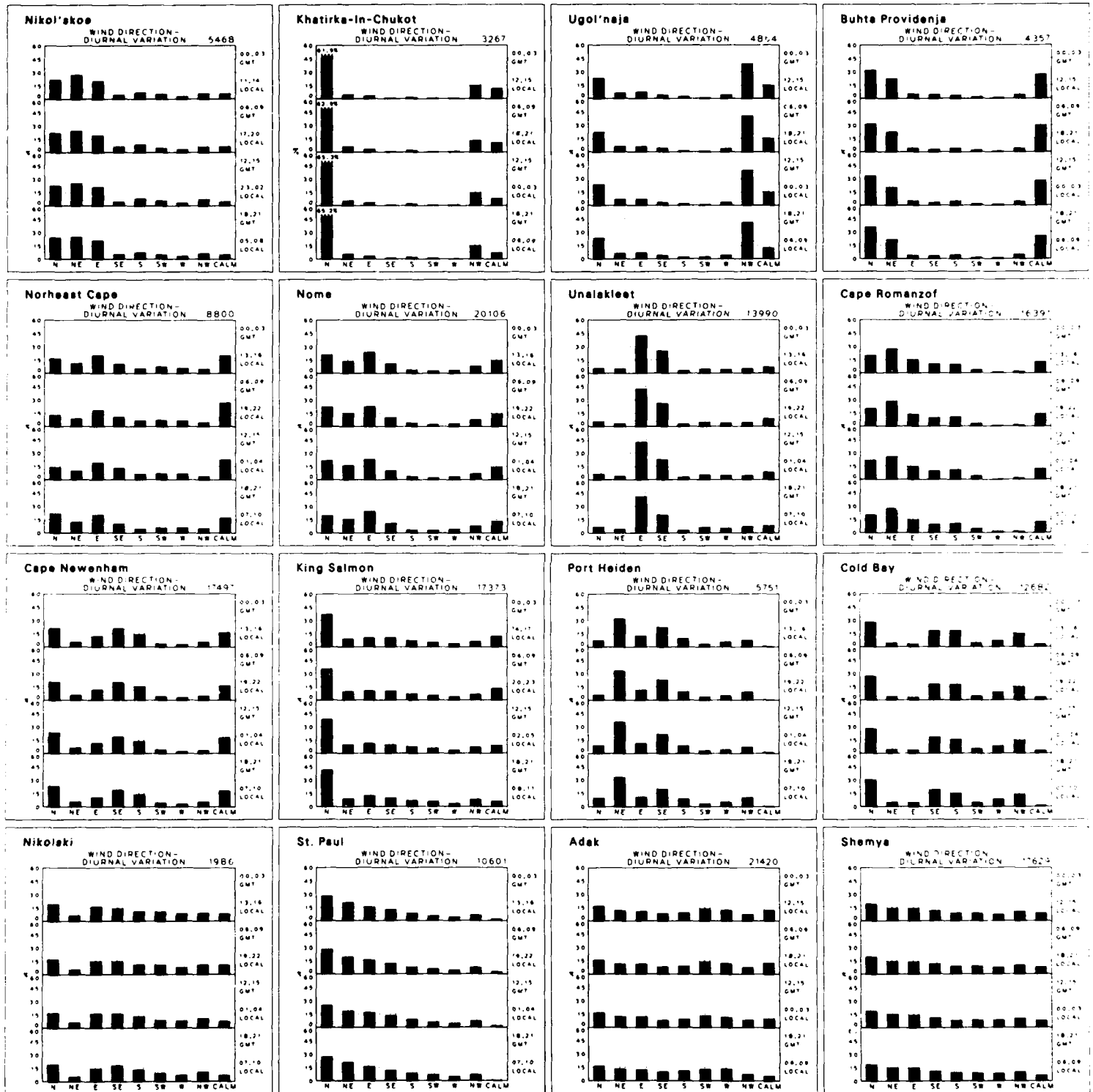
January

12 Wind Direction and Diurnal Variation



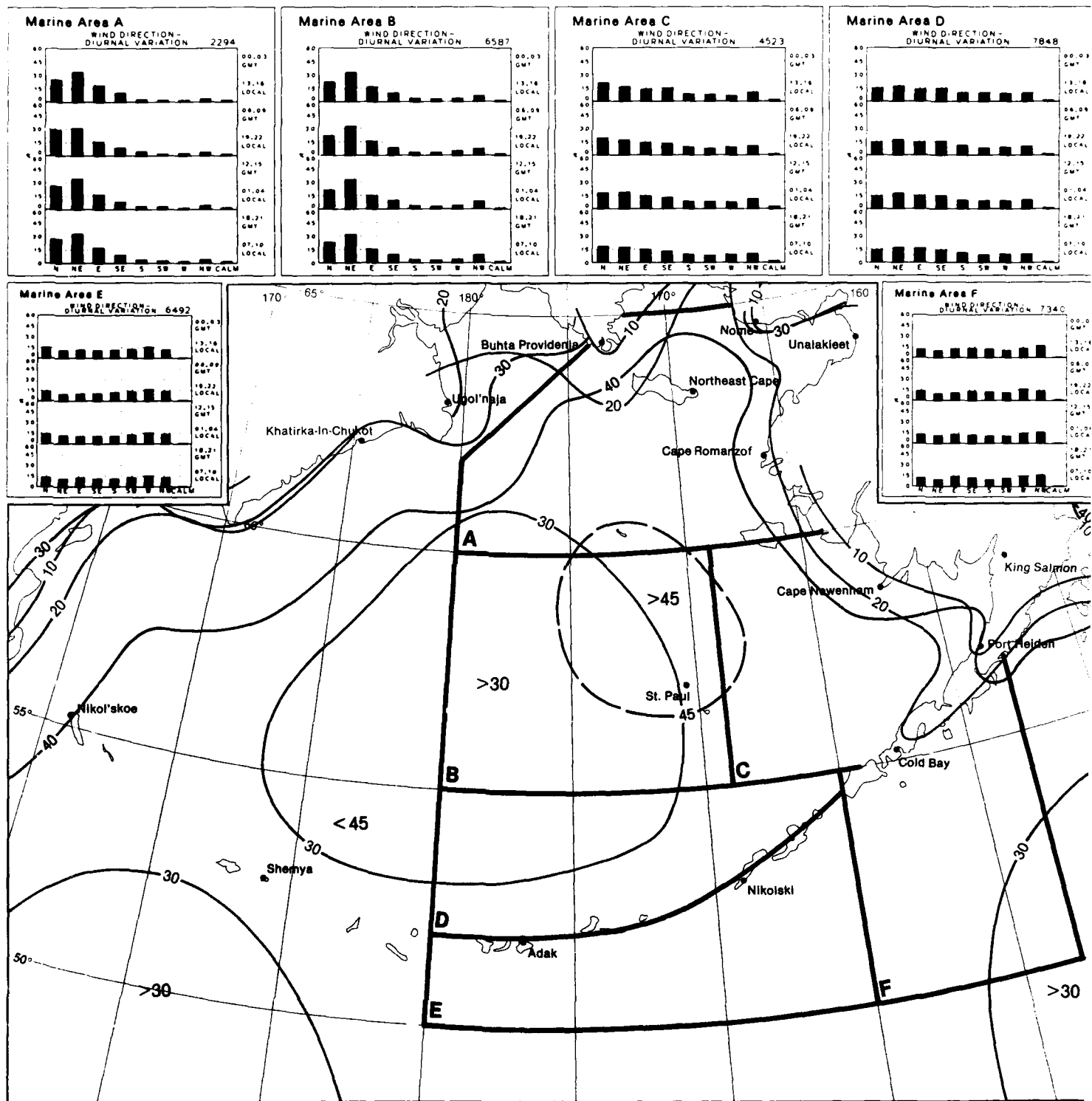
12 Wind Speed 11-21 and 22-33 Knots

January



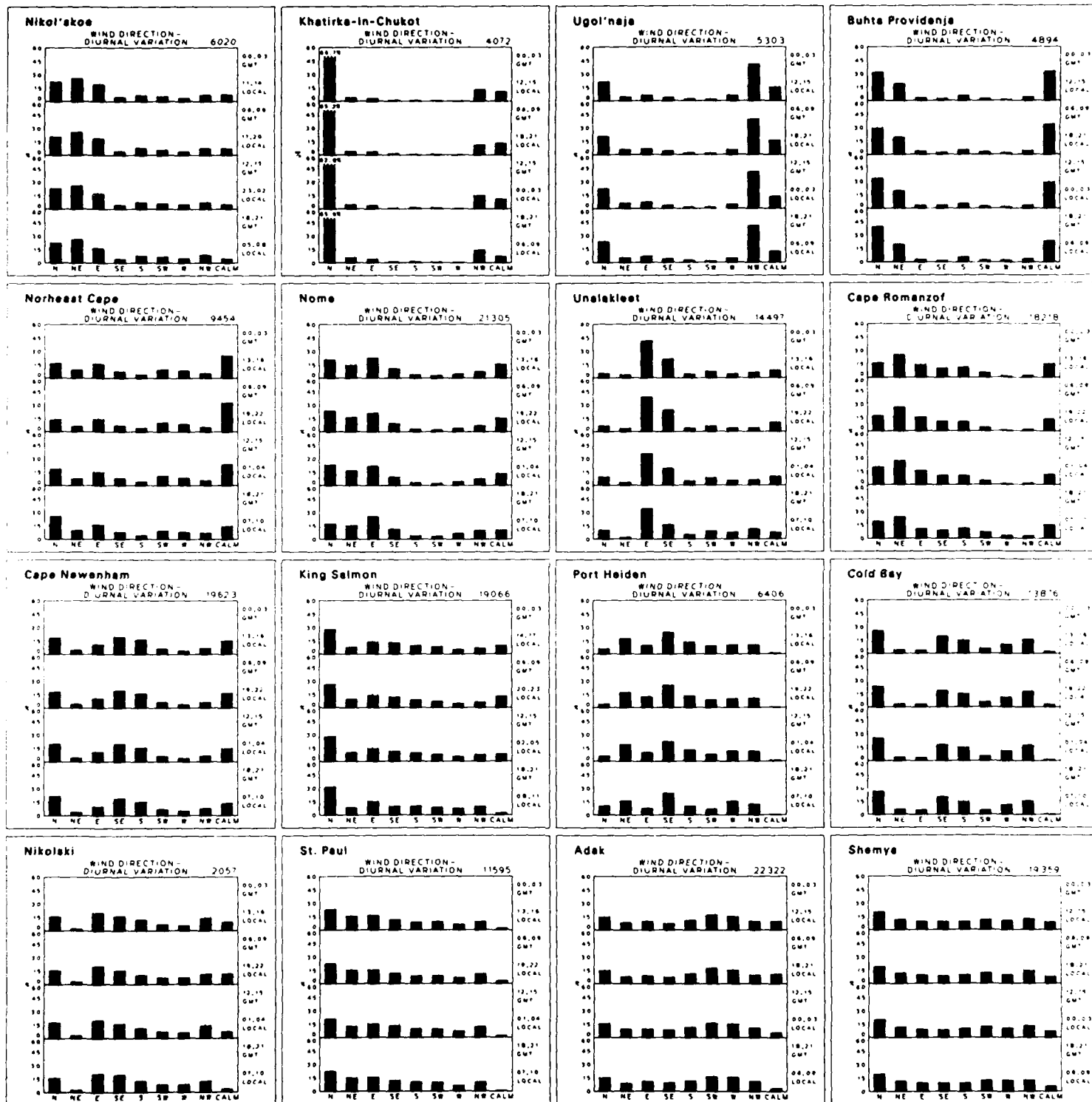
February

12 Wind Direction and Diurnal Variation



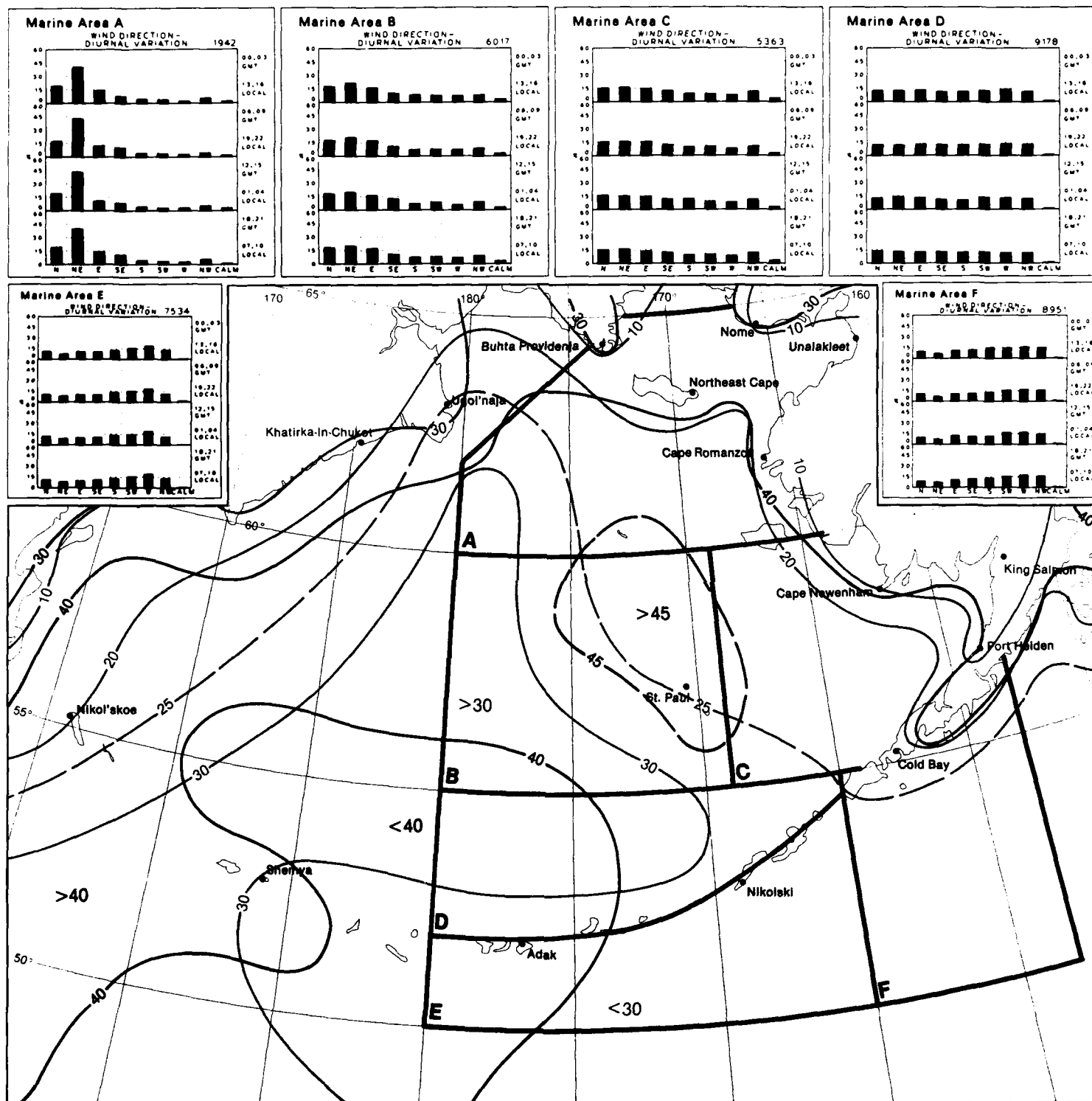
12 Wind Speed 11-21 and 22-33 Knots

February



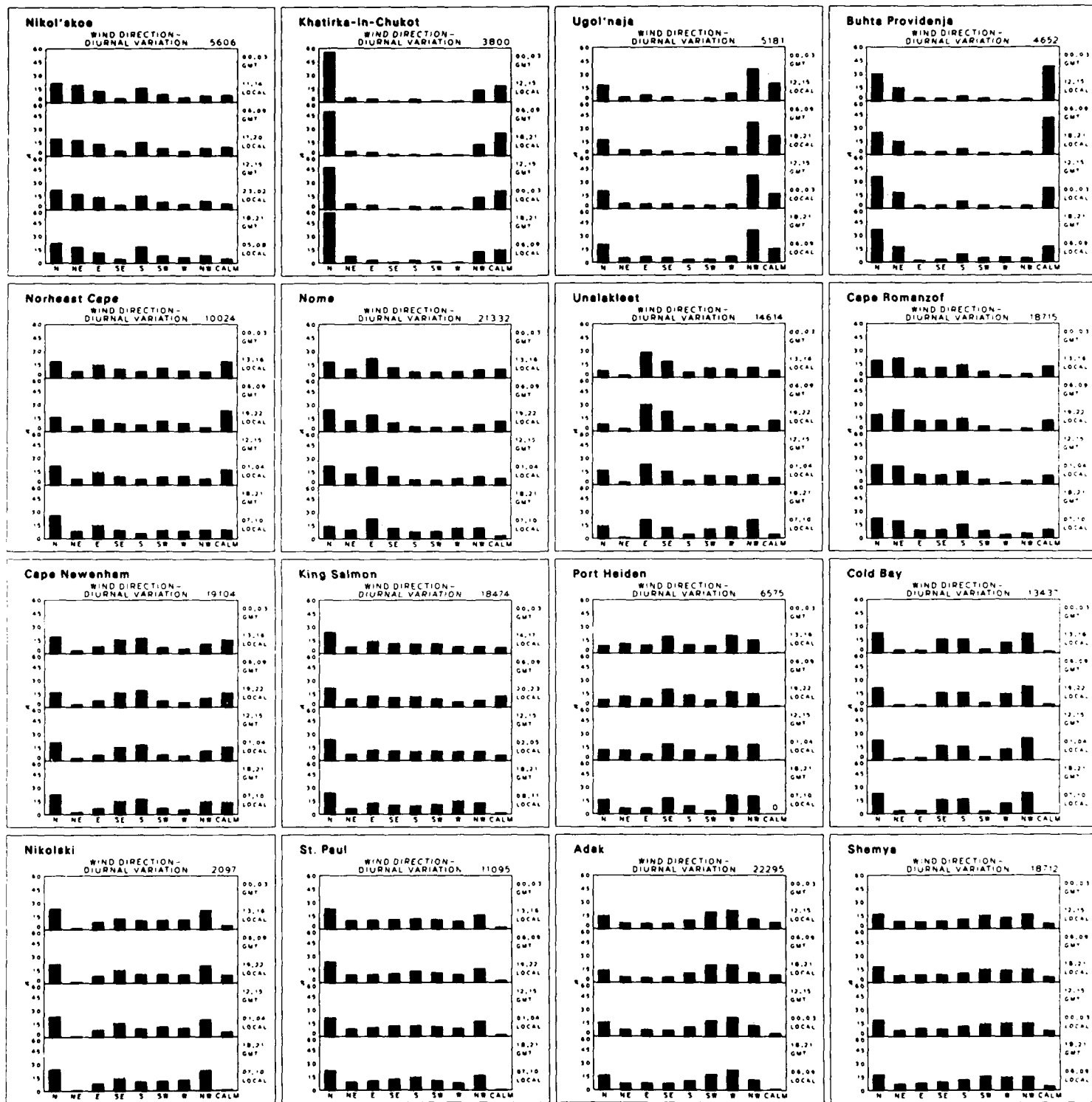
March

12 Wind Direction and Diurnal Variation



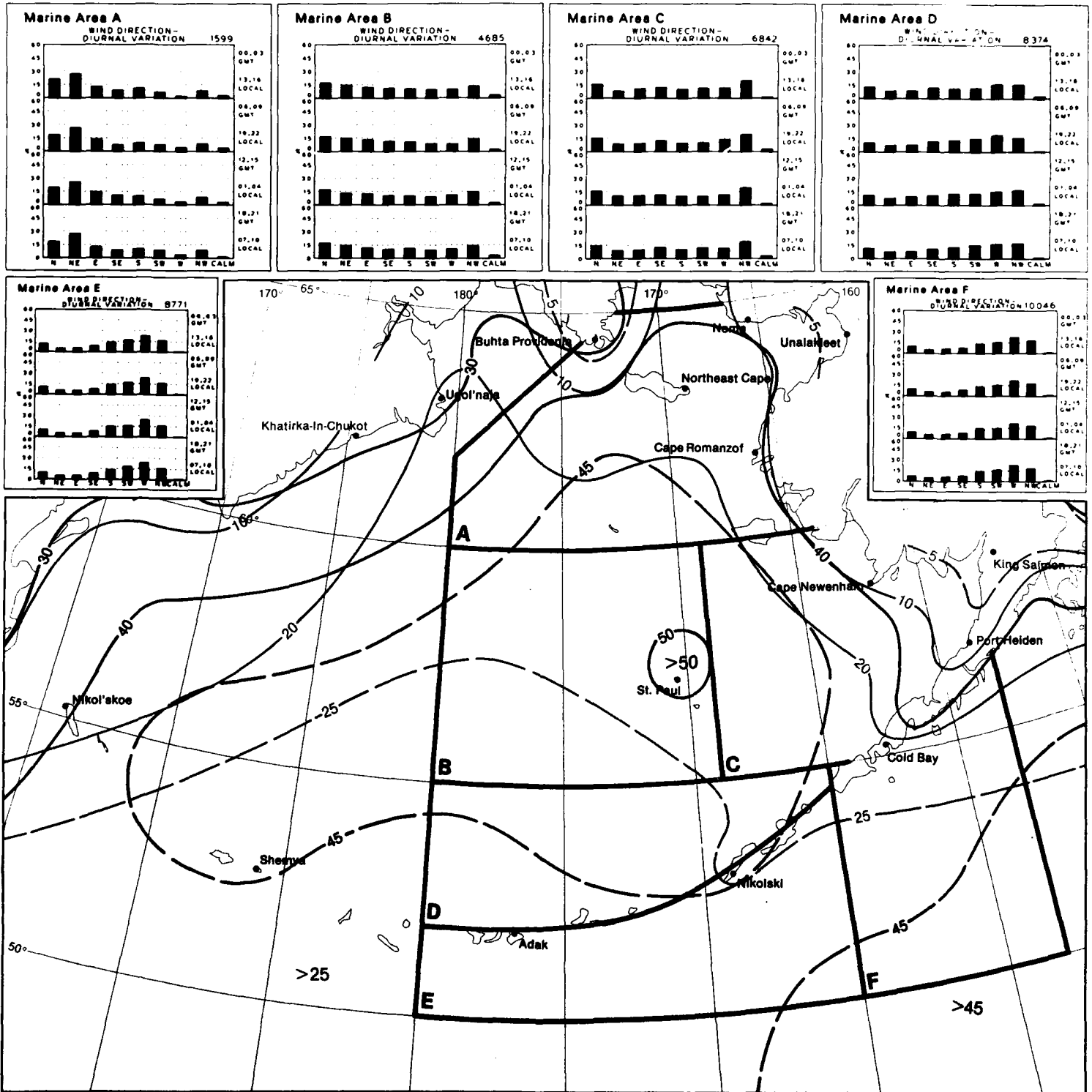
12 Wind Speed 11-21 and 22-33 Knots

March



April

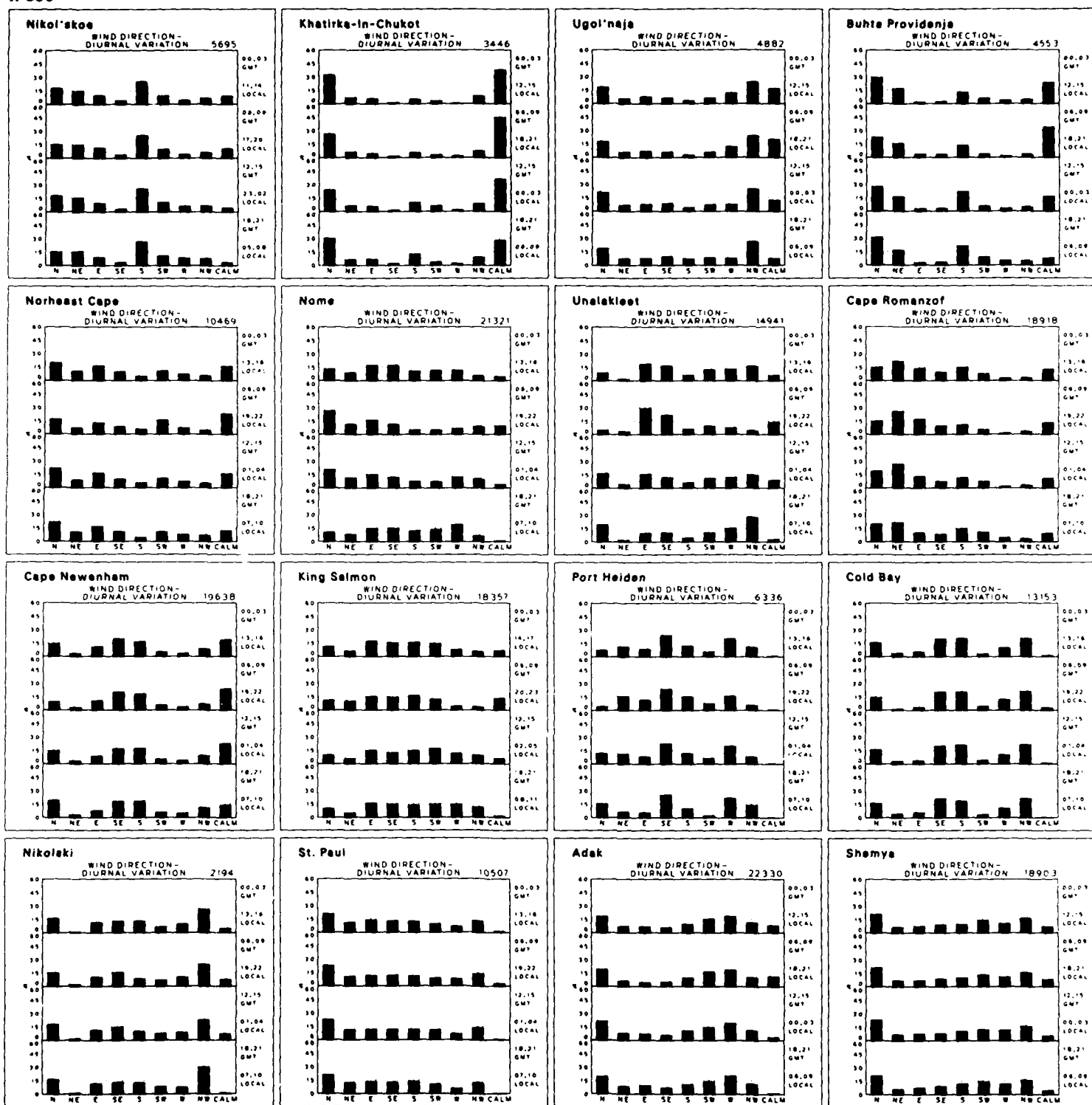
12 Wind Direction and Diurnal Variation



12 Wind Speed 11-21 and 22-33 Knots

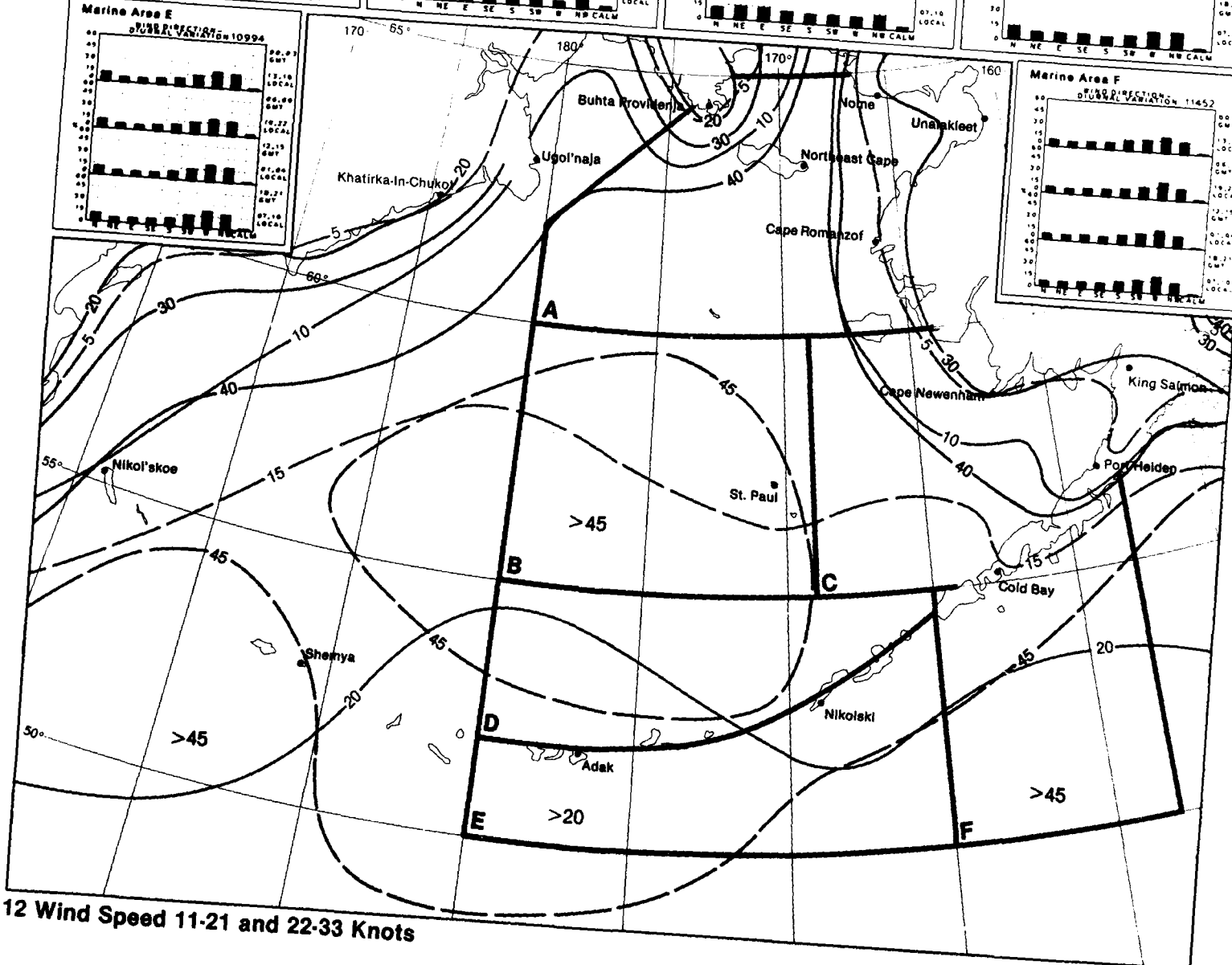
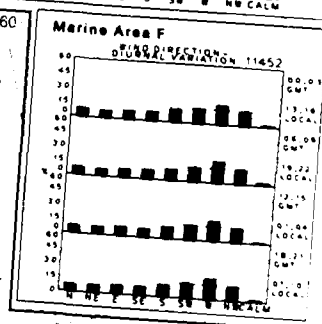
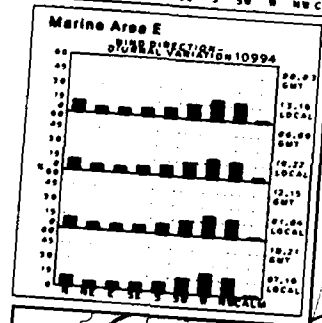
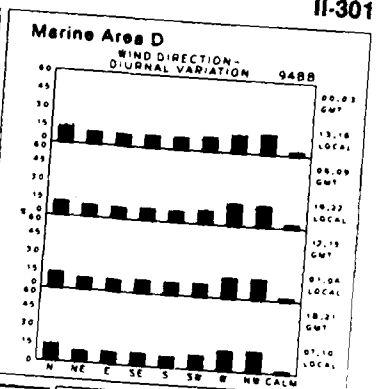
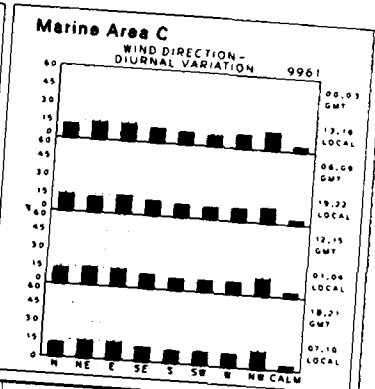
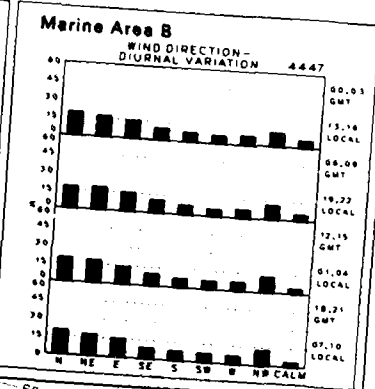
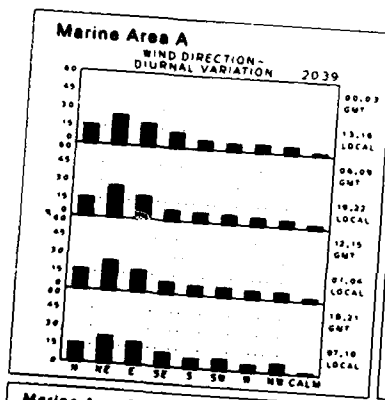
April





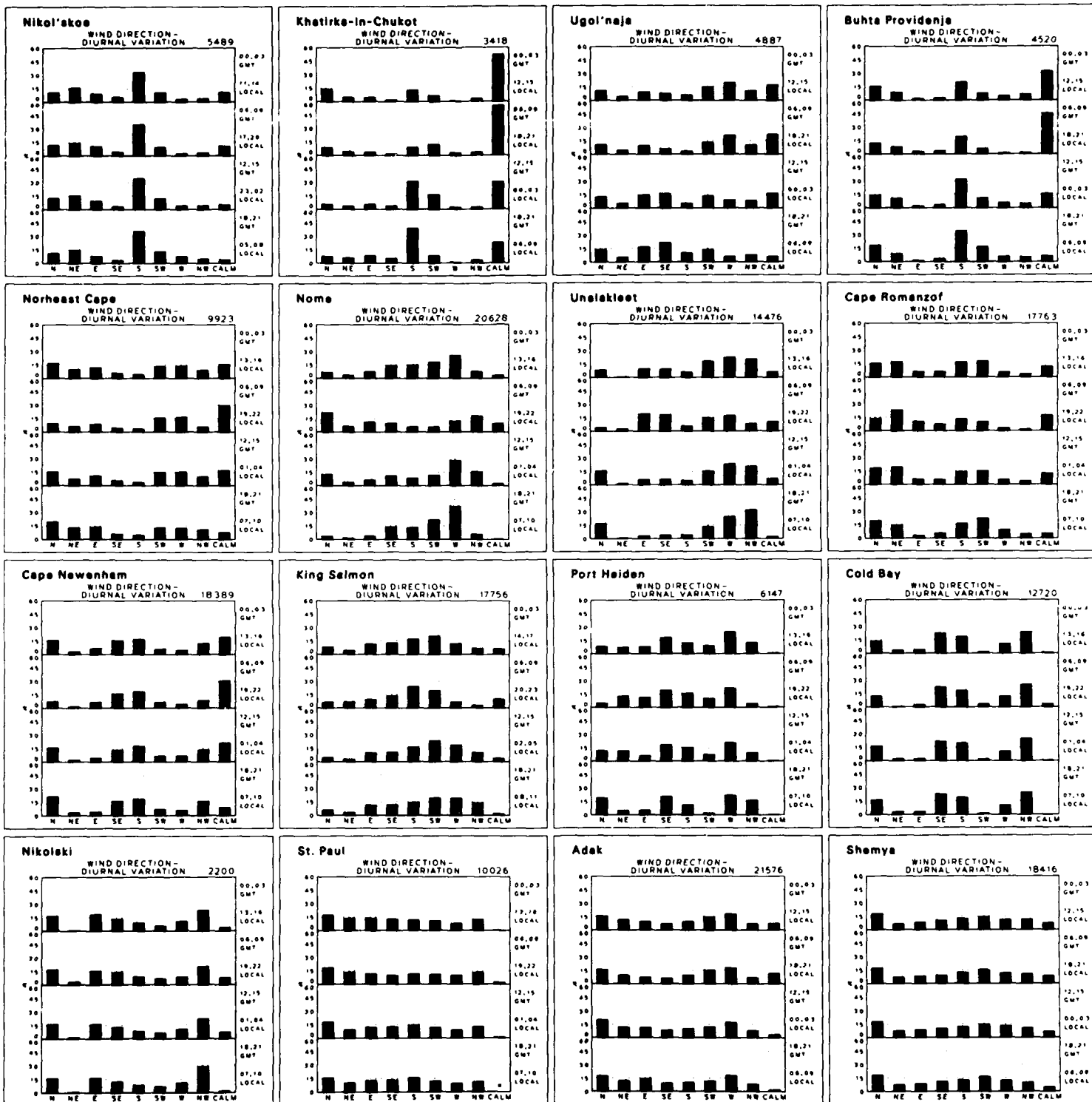
May

12 Wind Direction and Diurnal Variation



12 Wind Speed 11-21 and 22-33 Knots

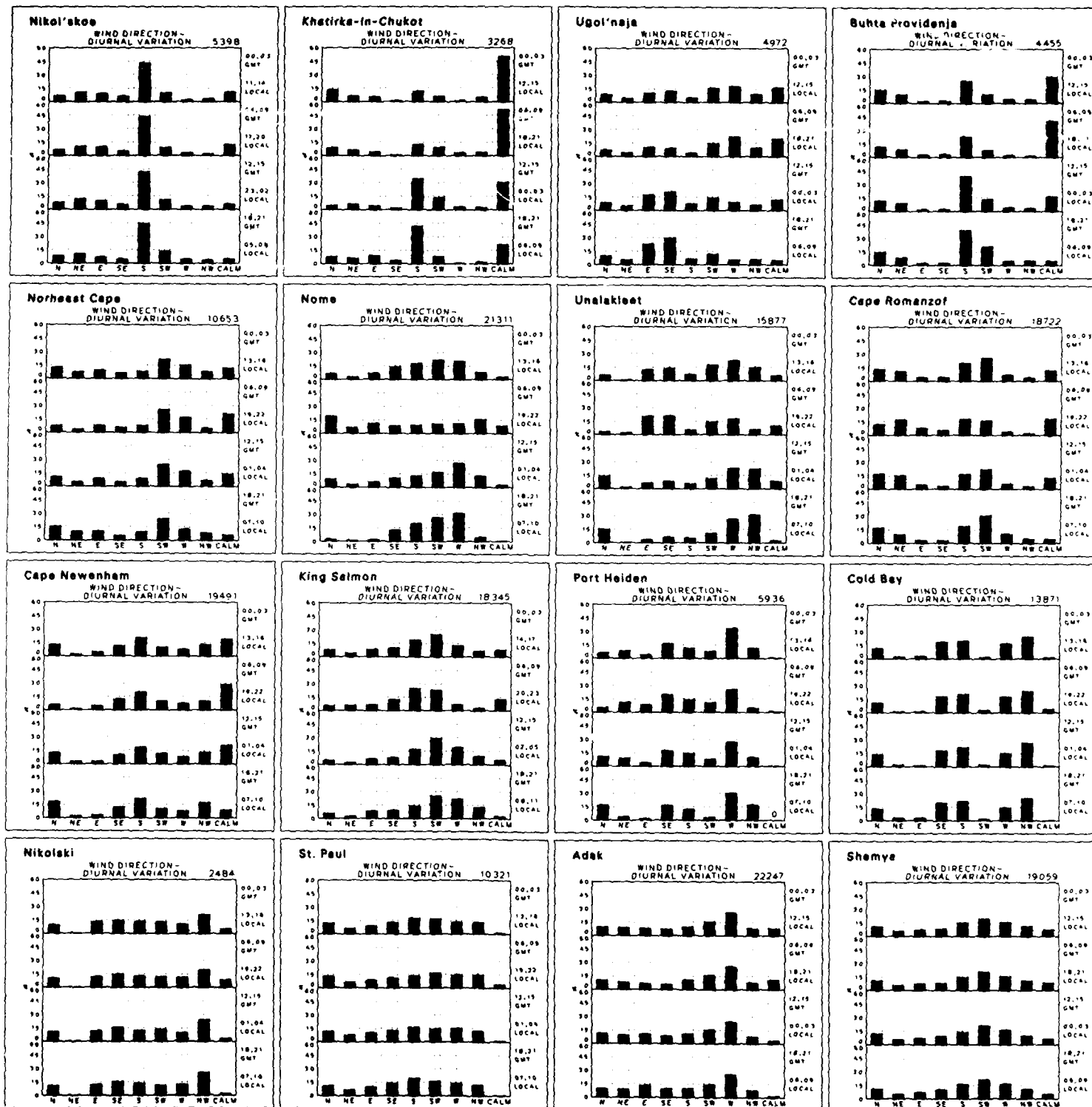
May



June

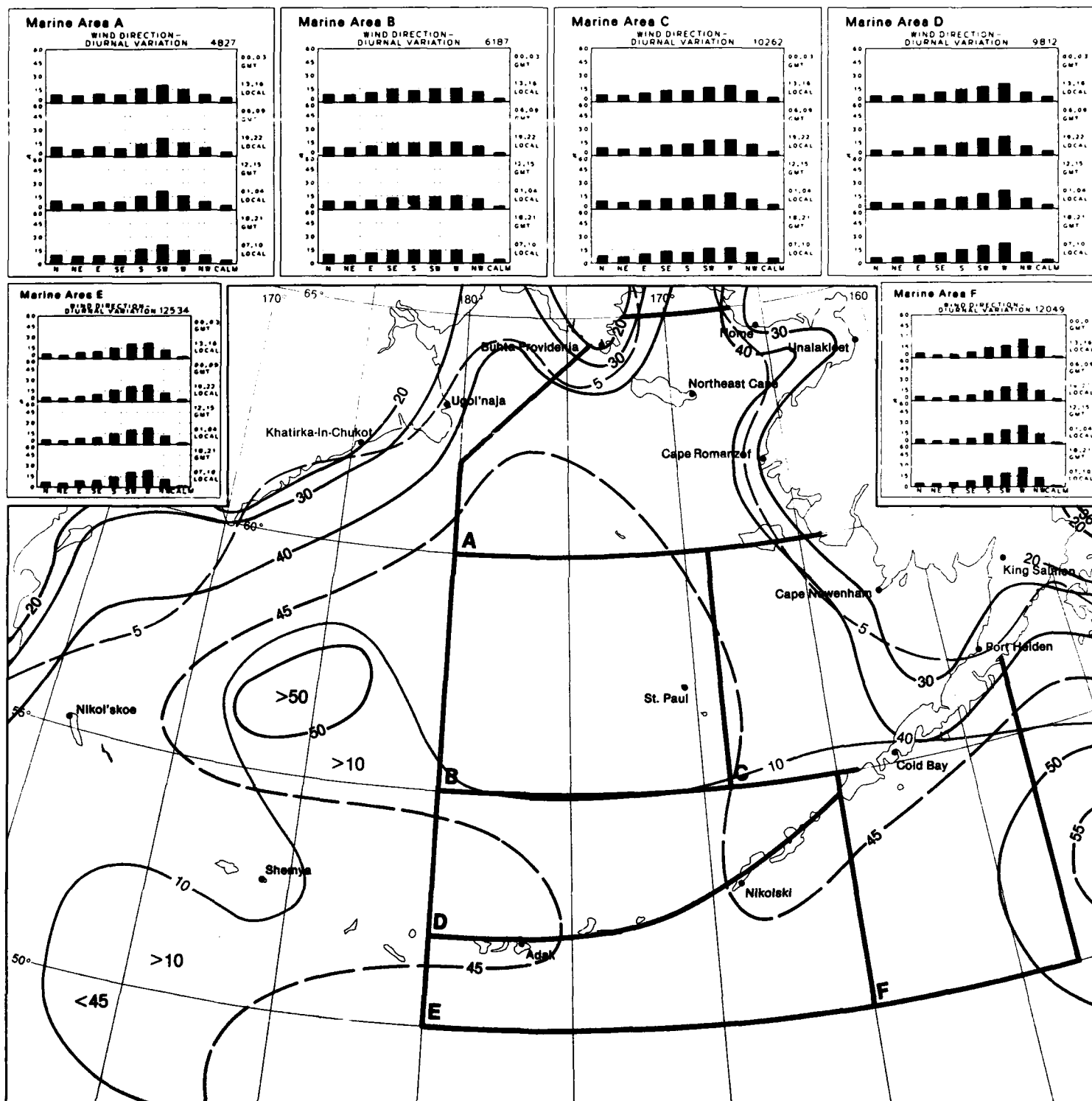
12 Wind Direction and Diurnal Variation

## June



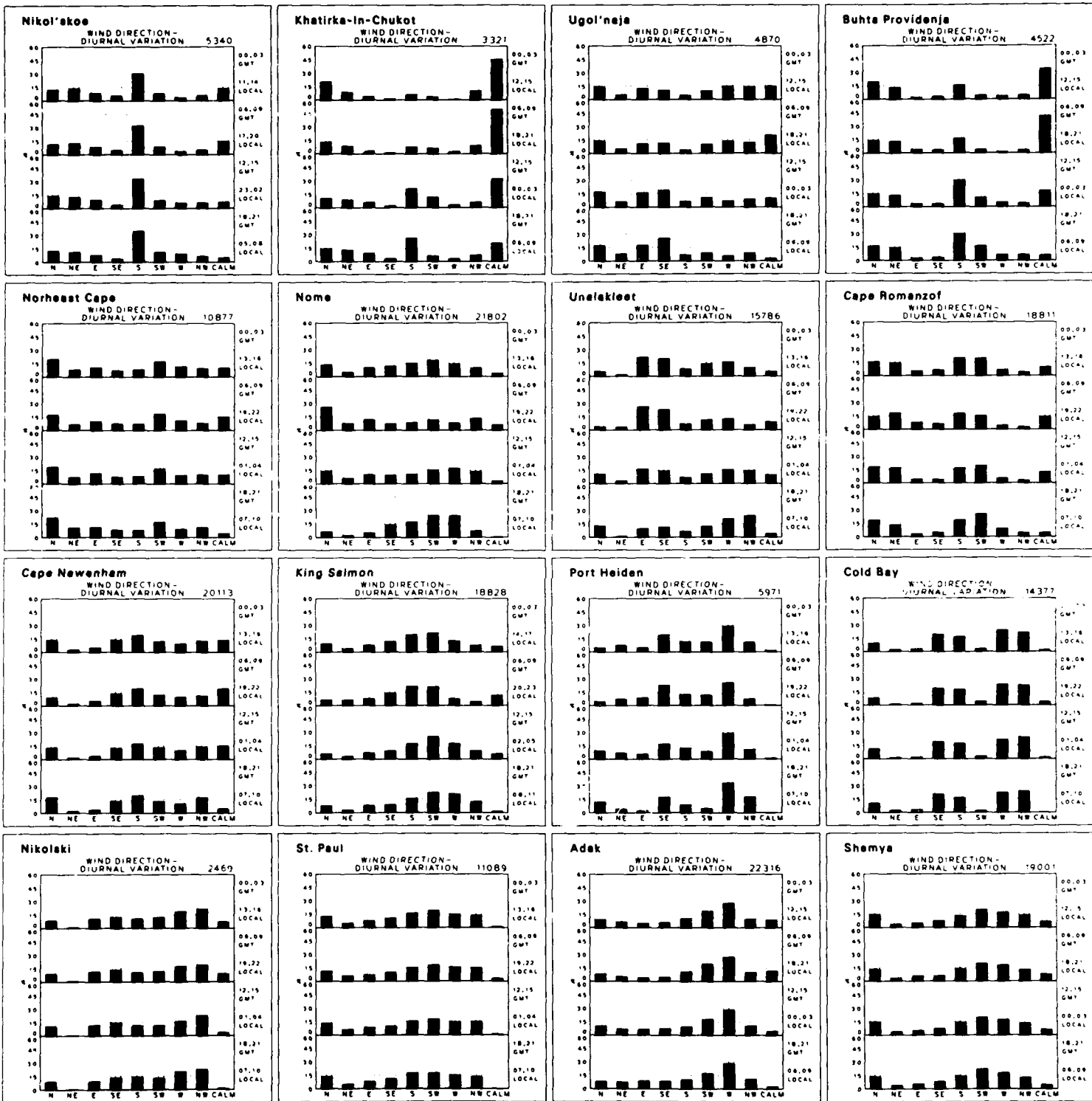
July

12 Wind Direction and Diurnal Variation



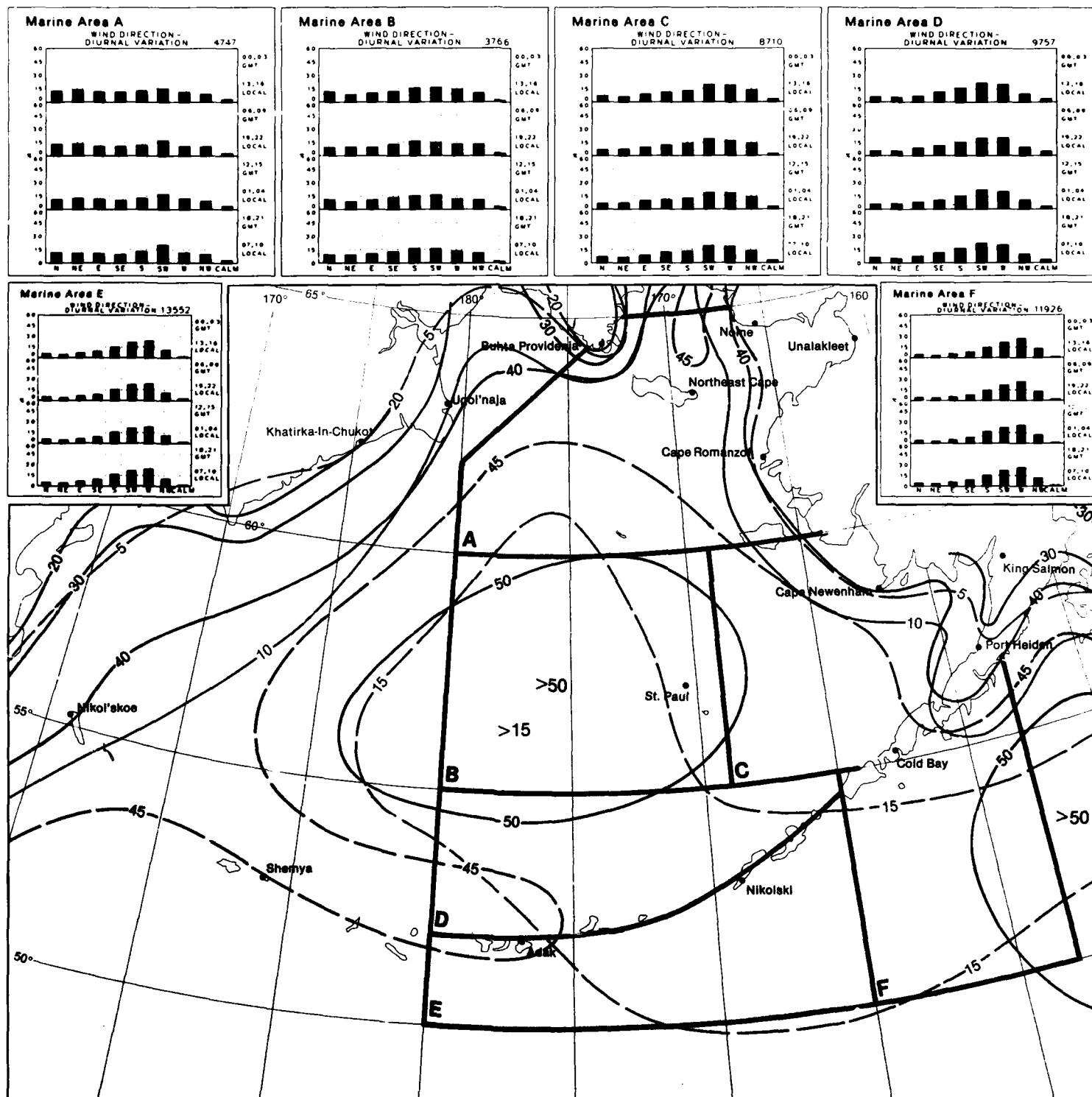
12 Wind Speed 11-21 and 22-33 Knots

July



August

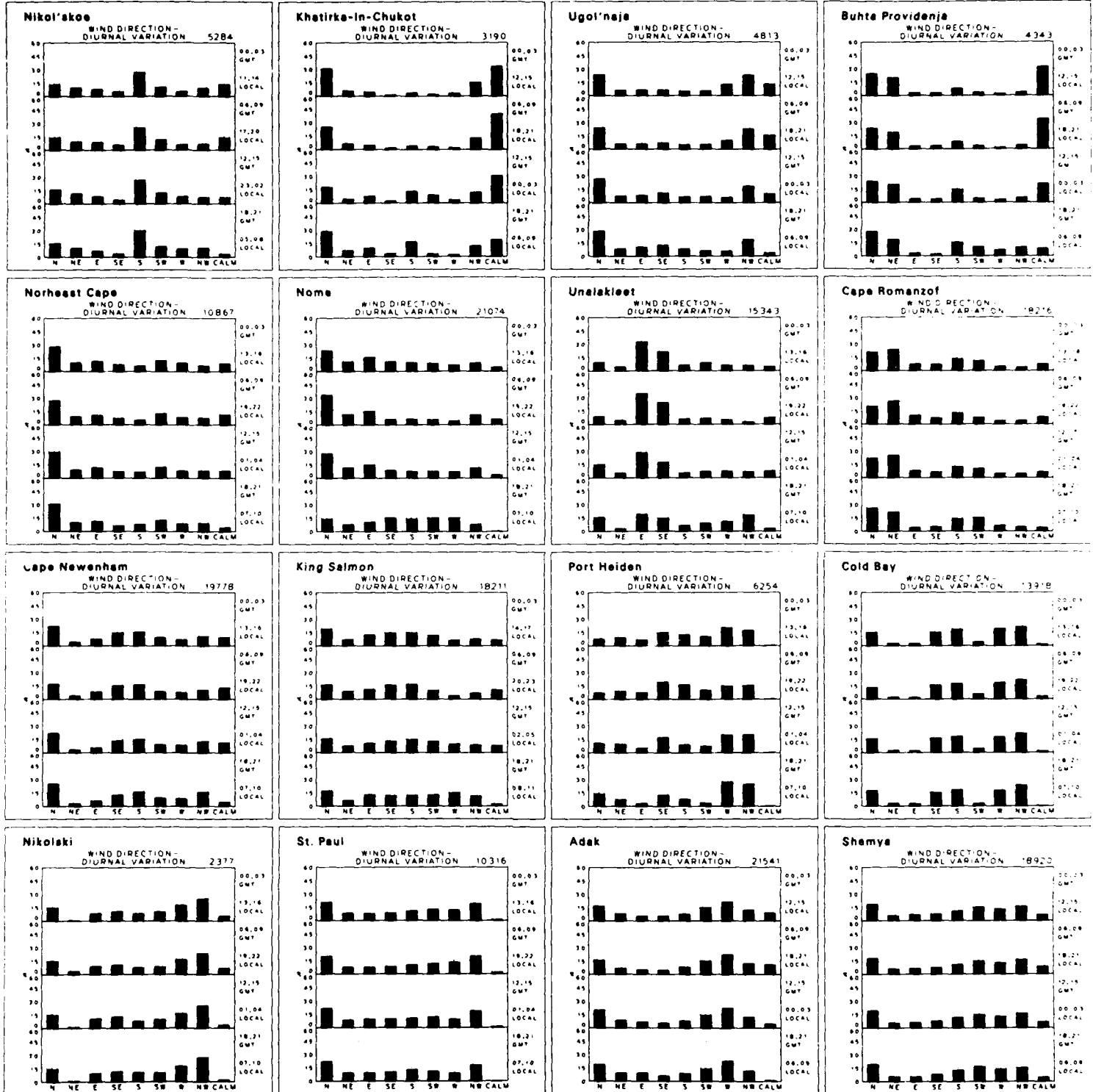
12 Wind Direction and Diurnal Variation



12 Wind Speed 11-21 and 22-33 Knots

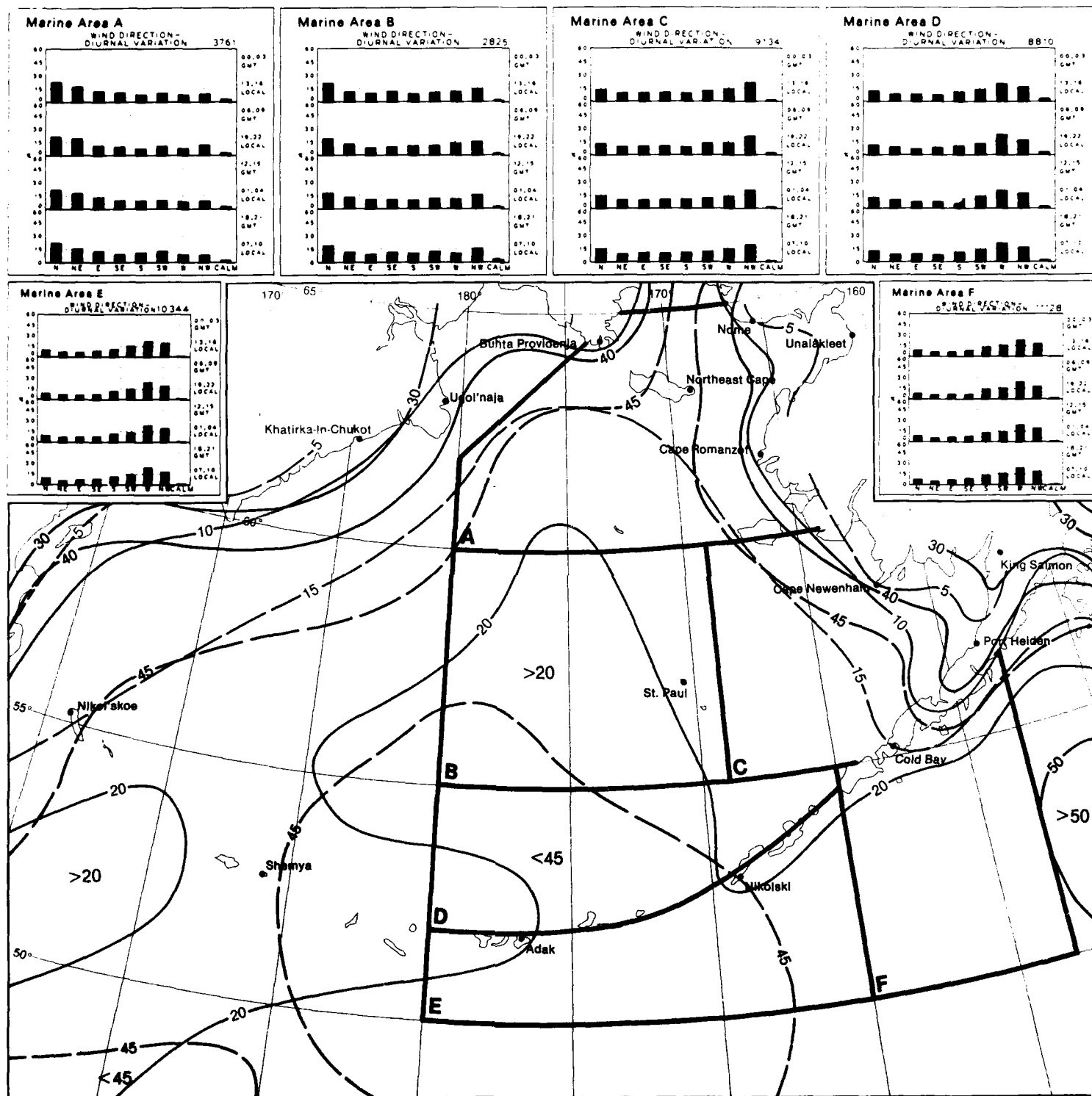
August





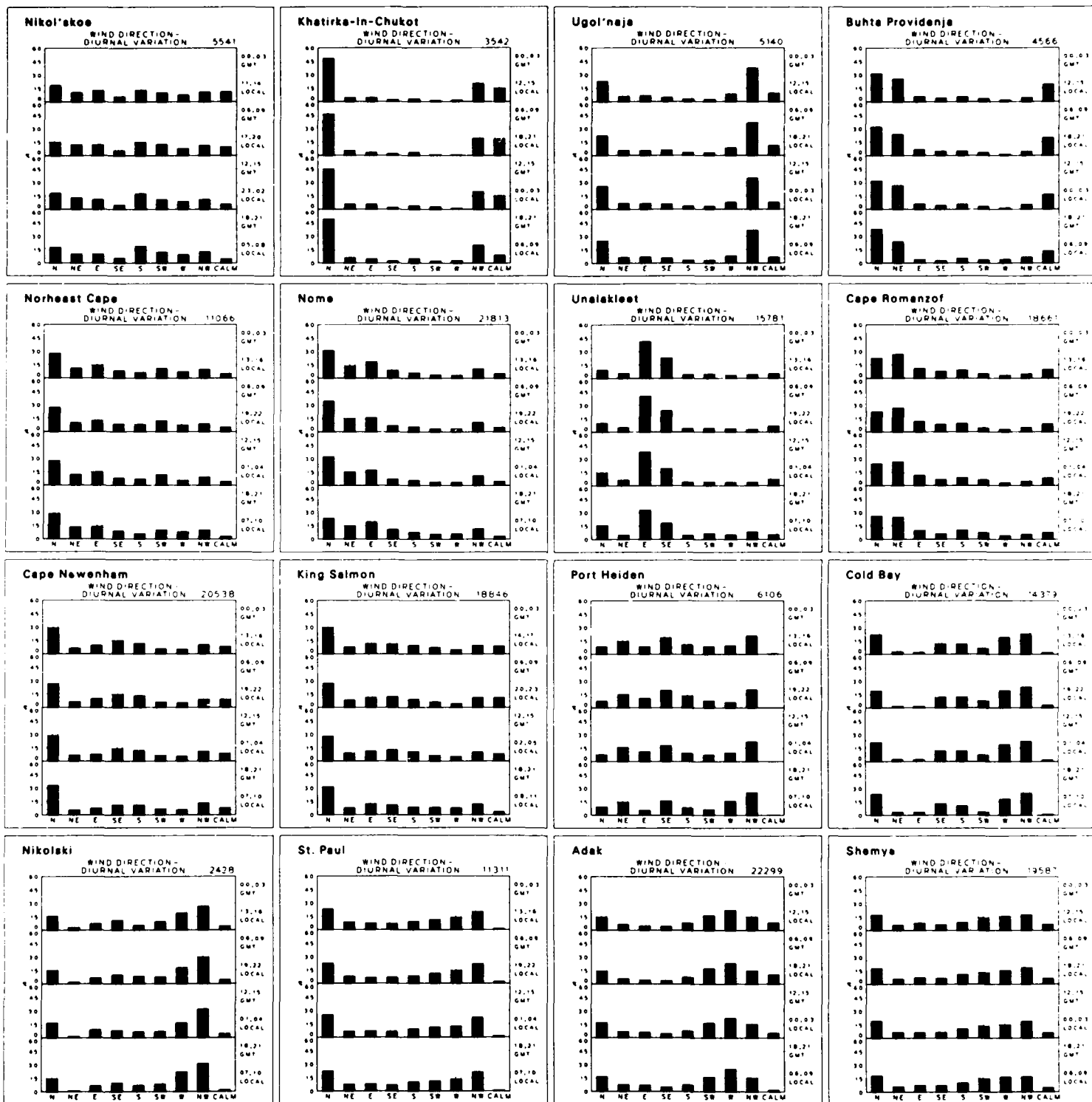
September

12 Wind Direction and Diurnal Variation



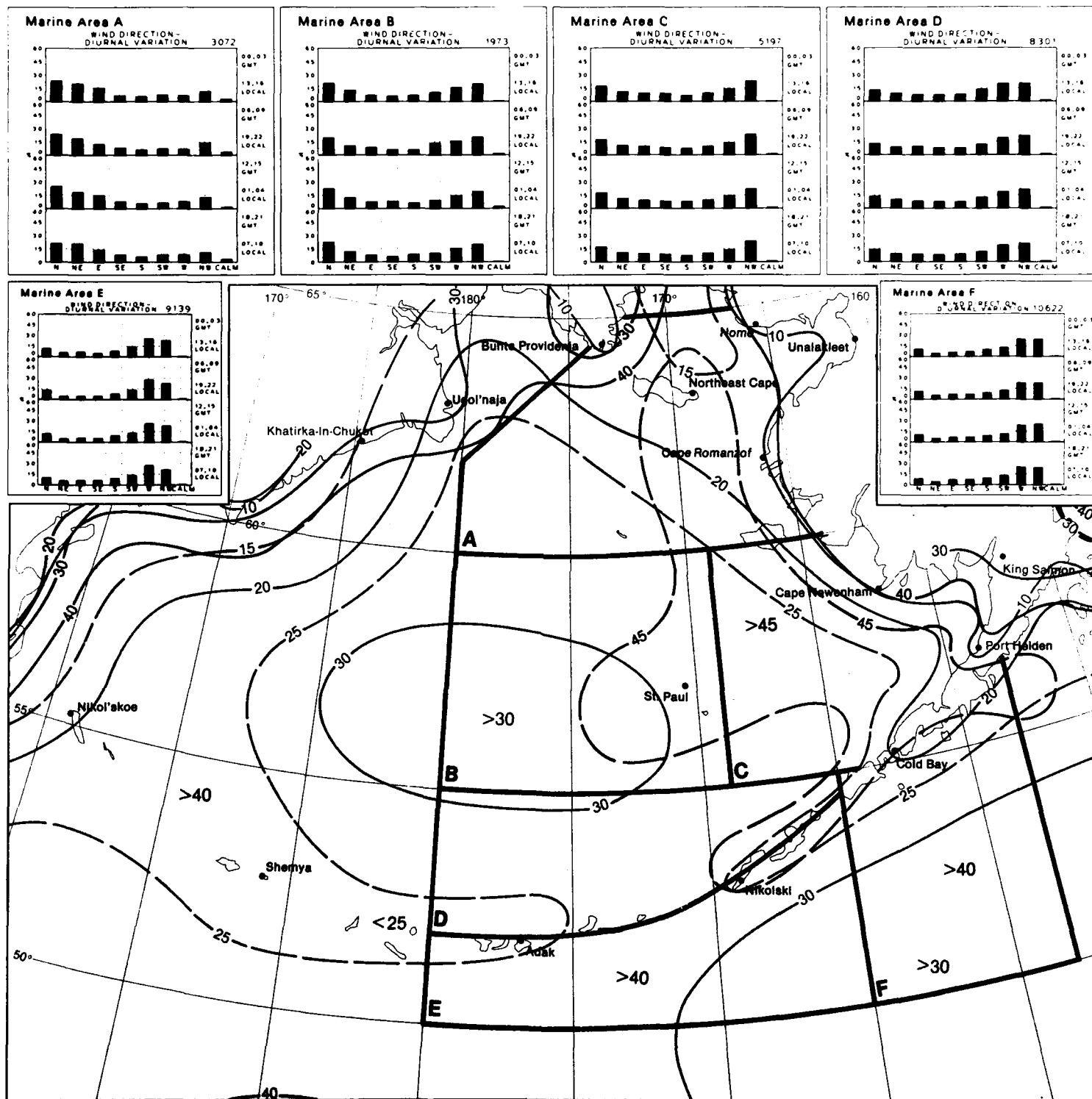
12 Wind Speed 11-21 and 22-33 Knots

September



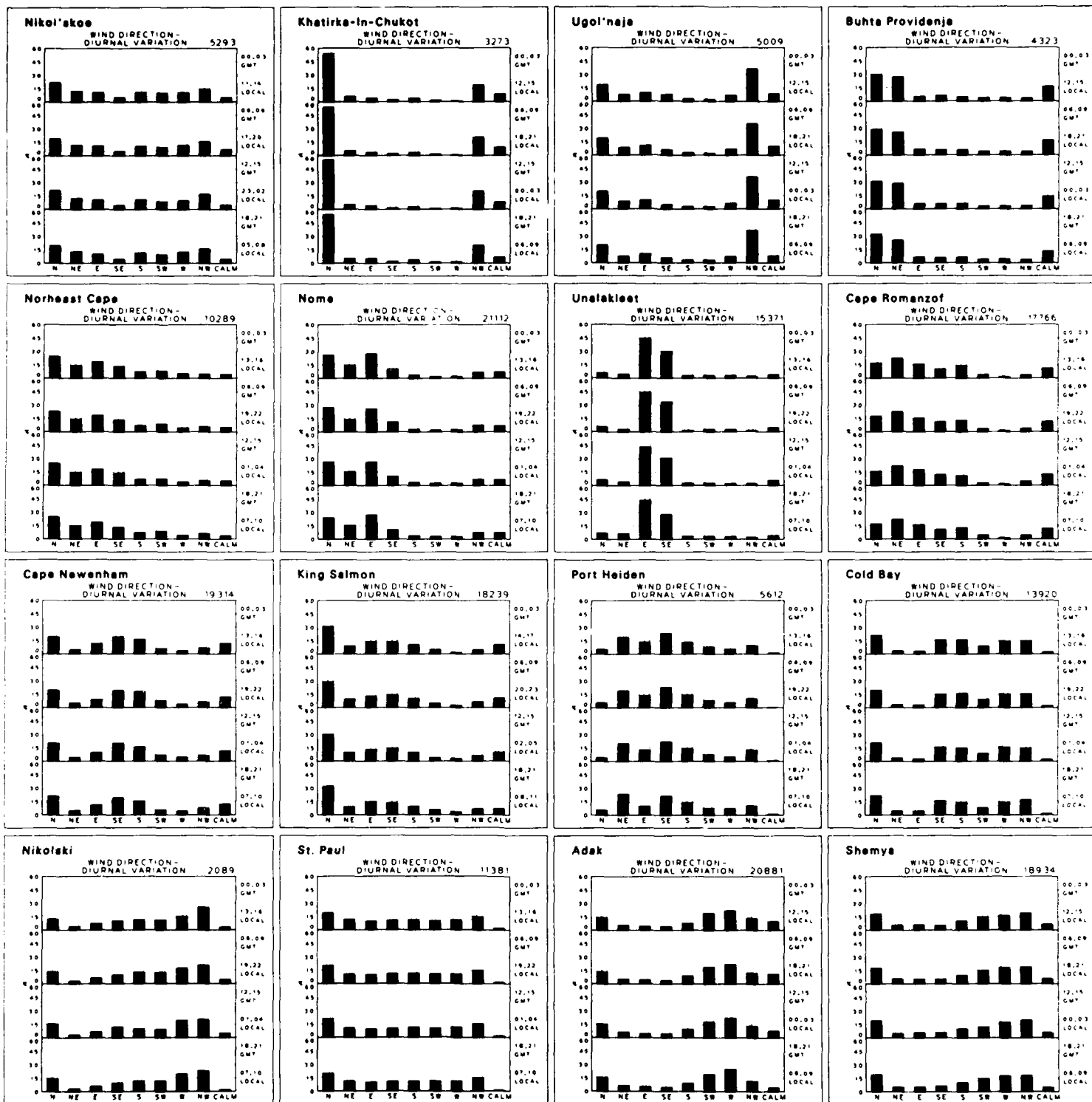
October

12 Wind Direction and Diurnal Variation



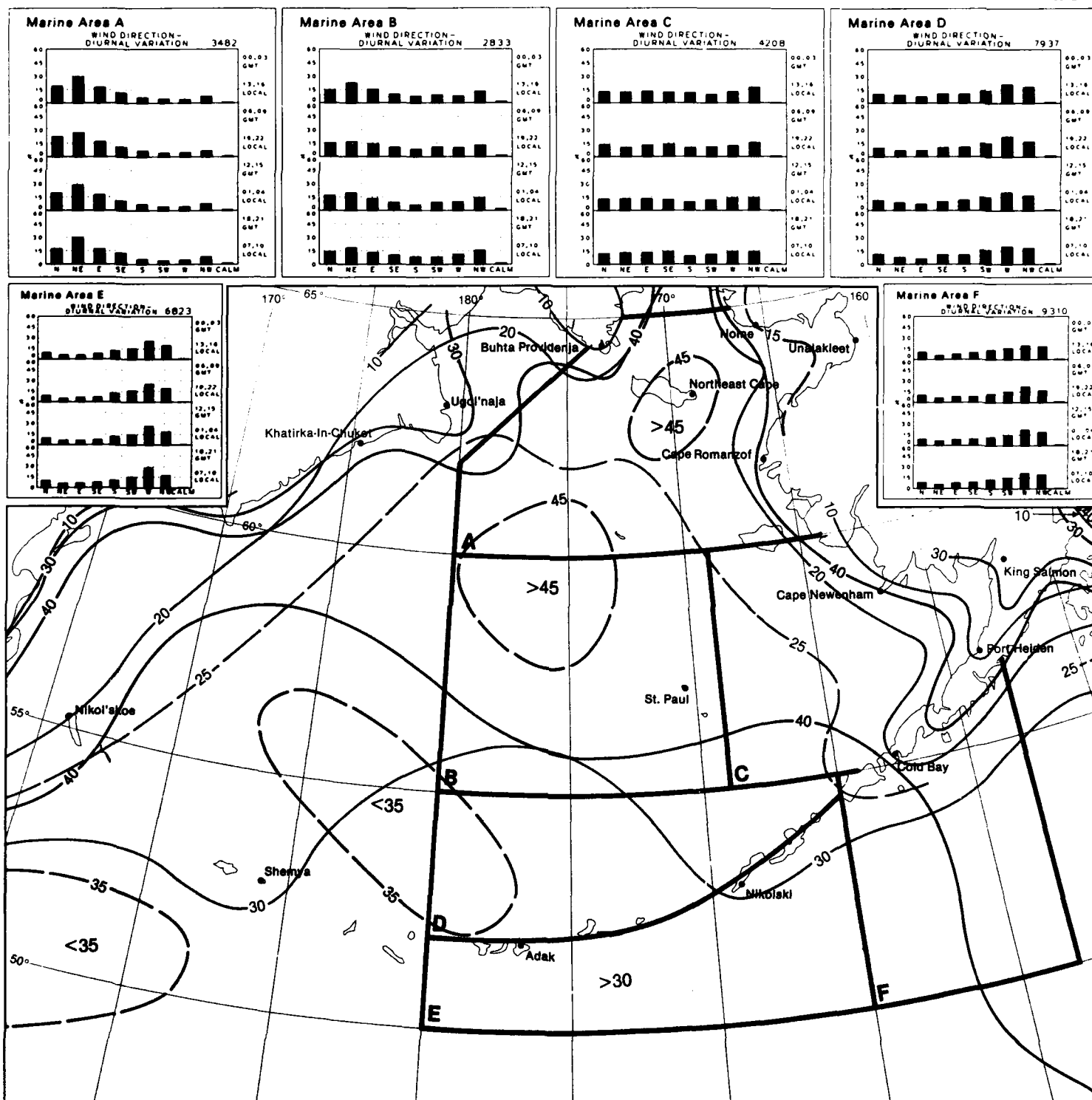
12 Wind Speed 11-21 and 22-33 Knots

October



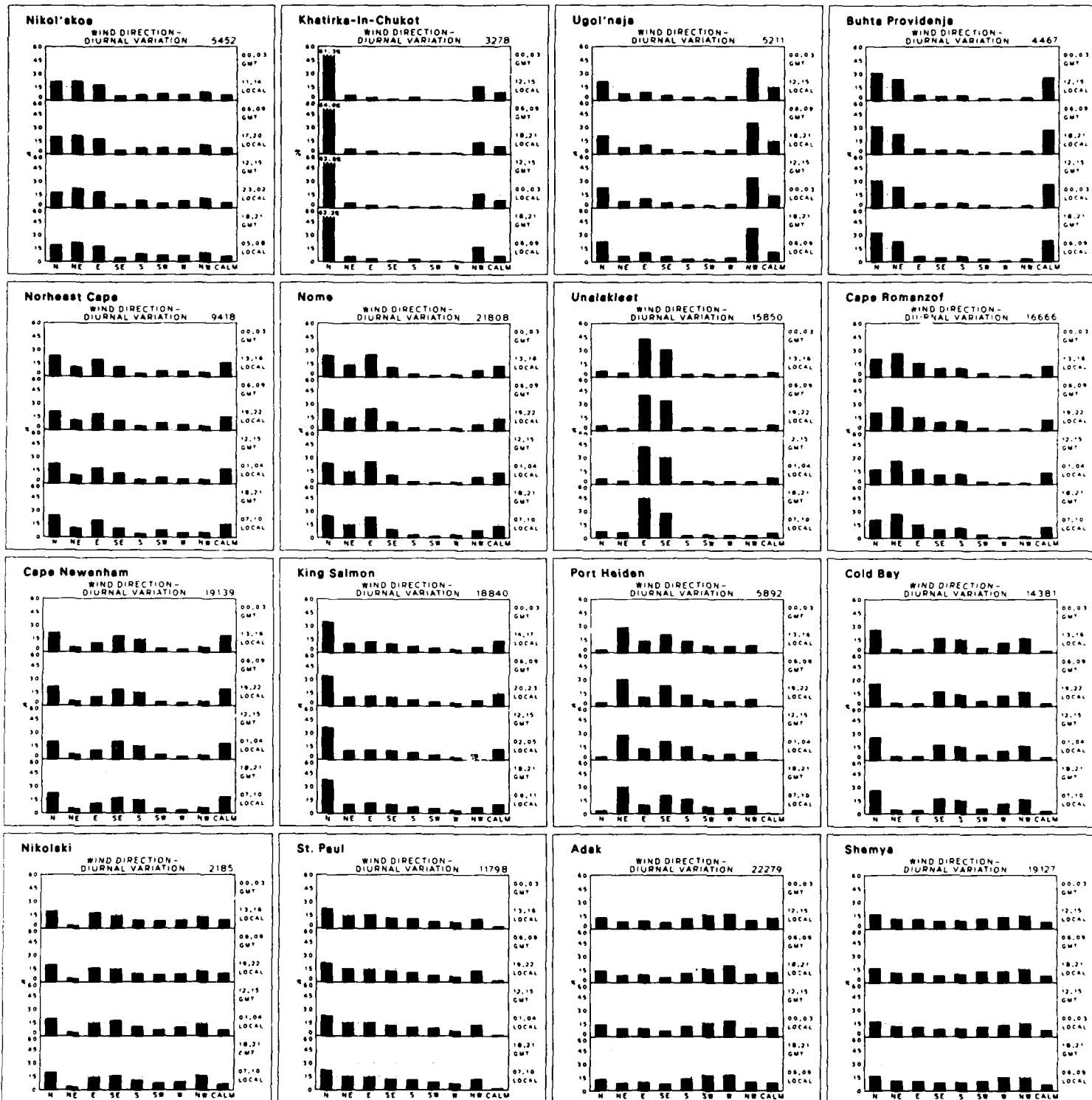
November

12 Wind Direction and Diurnal Variation



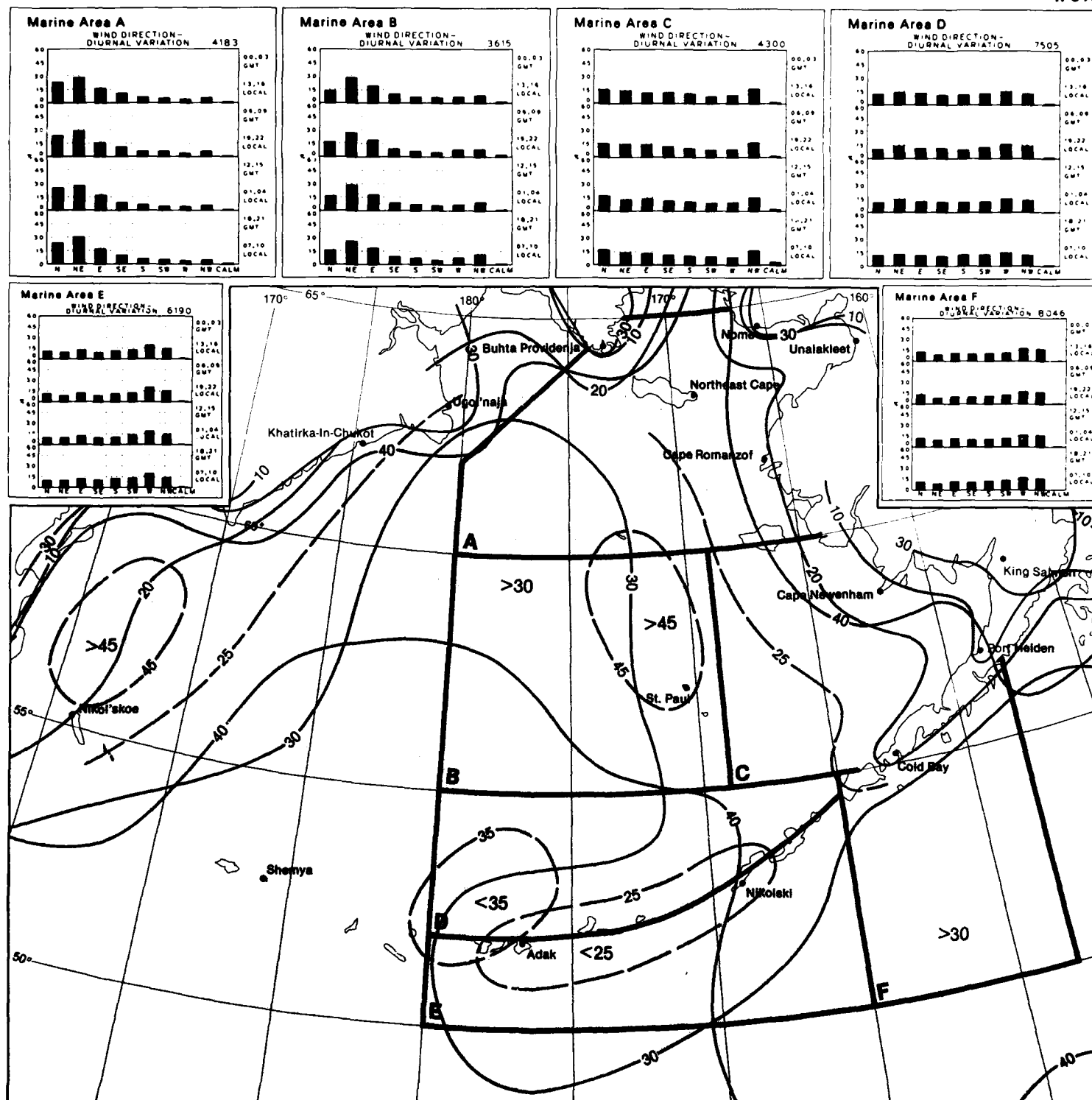
12 Wind Speed 11-21 and 22-33 Knots

November



December

12 Wind Direction and Diurnal Variation



12 Wind Speed 11-21 and 22-33 Knots

December



II-316

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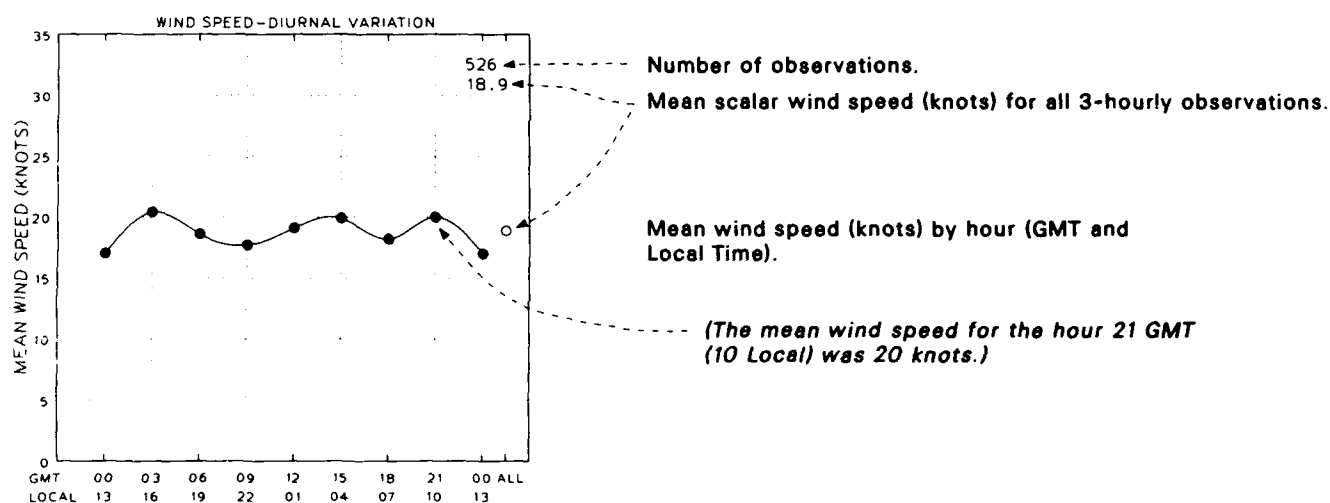
# Map 13. Scalar mean wind speed and wind chill temperature $\leq -30^{\circ}\text{C}$

BLACK LINE – Mean scalar wind speed (knots).

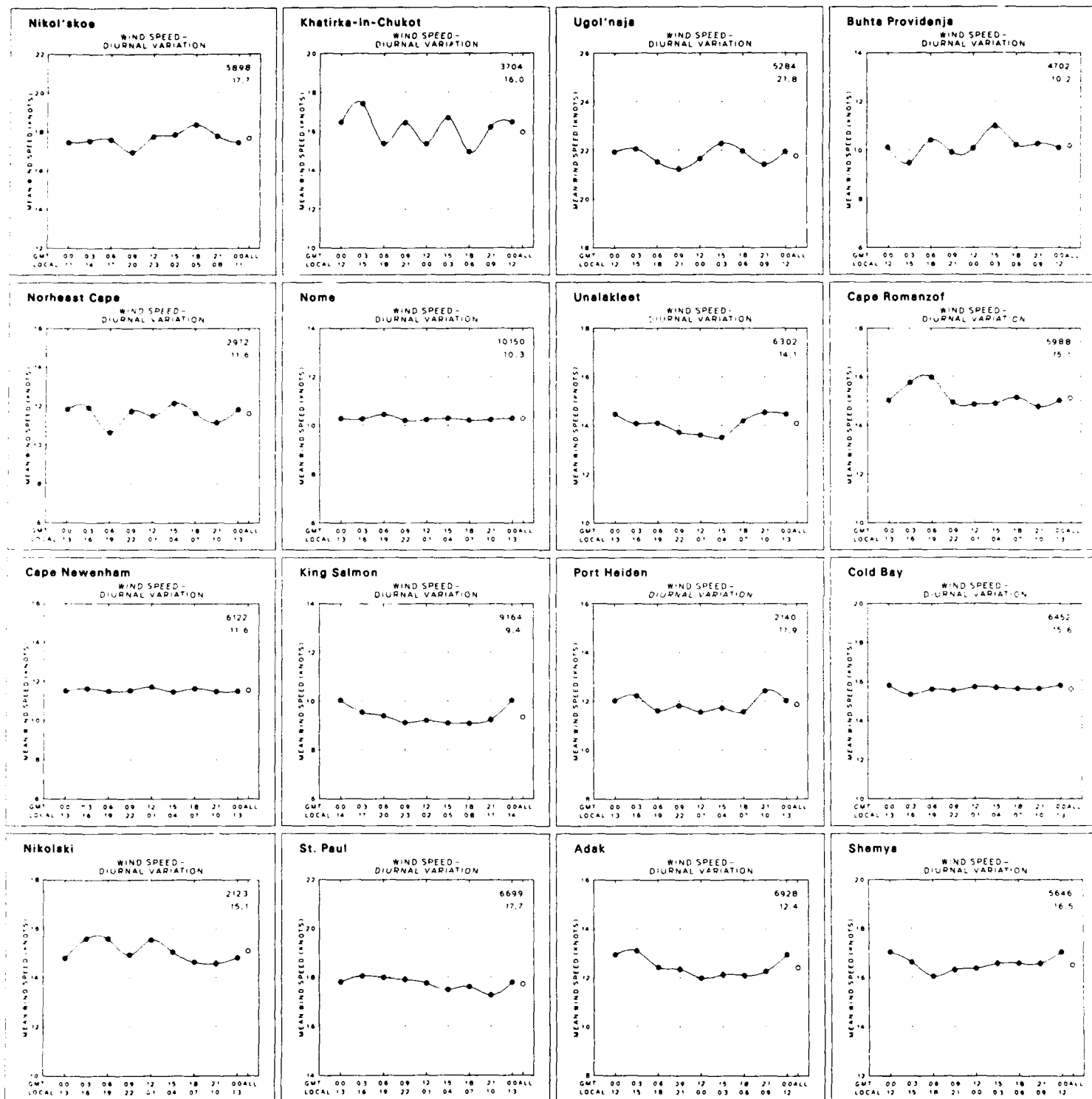
BLUE LINE – Percent frequency of wind chill temperature  $\leq -30^{\circ}\text{C}$  ( $\leq -22^{\circ}\text{F}$ ).

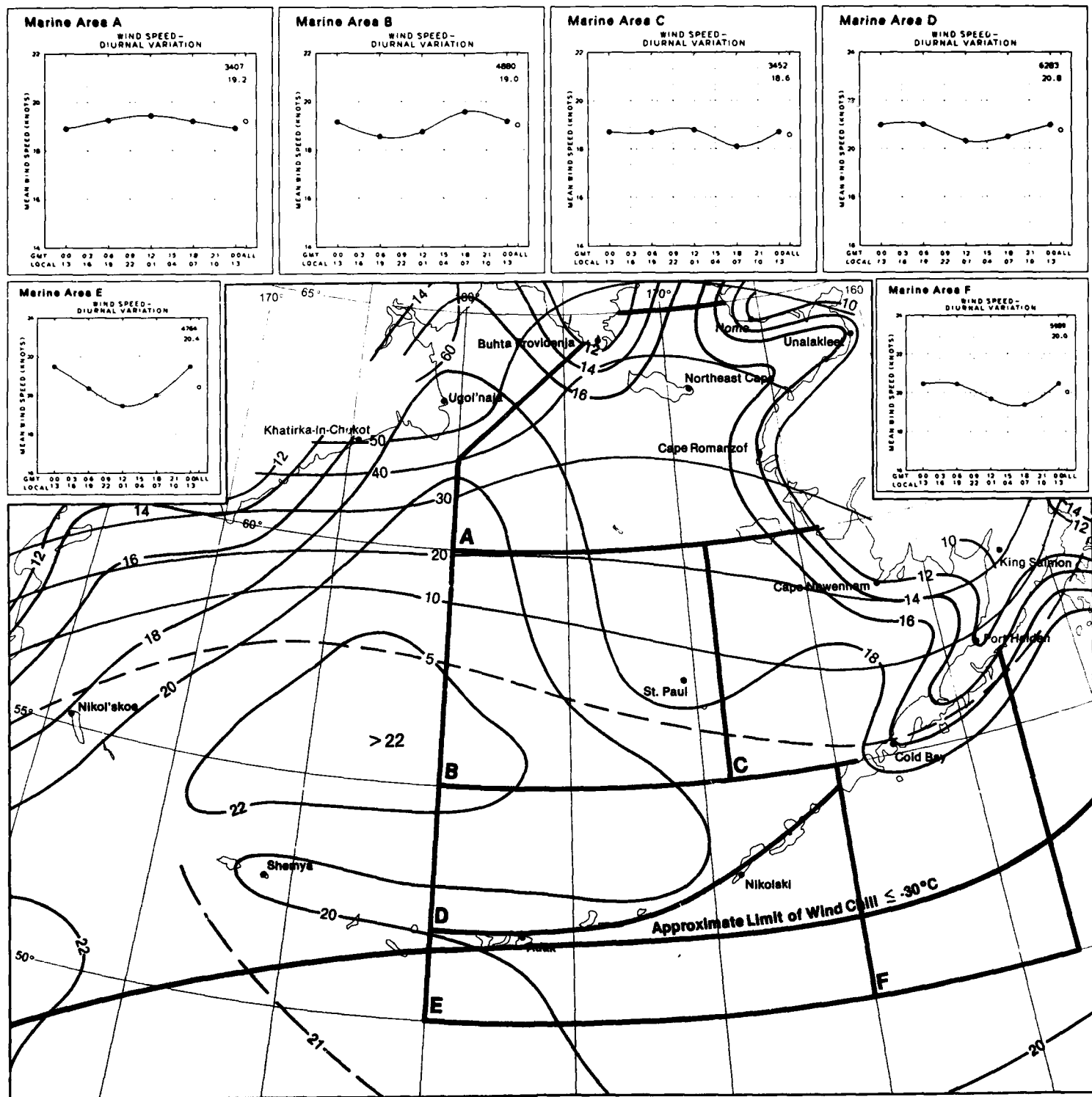
Albers Equal-Area Conic Projection

## Graphs: Wind speed/diurnal variation

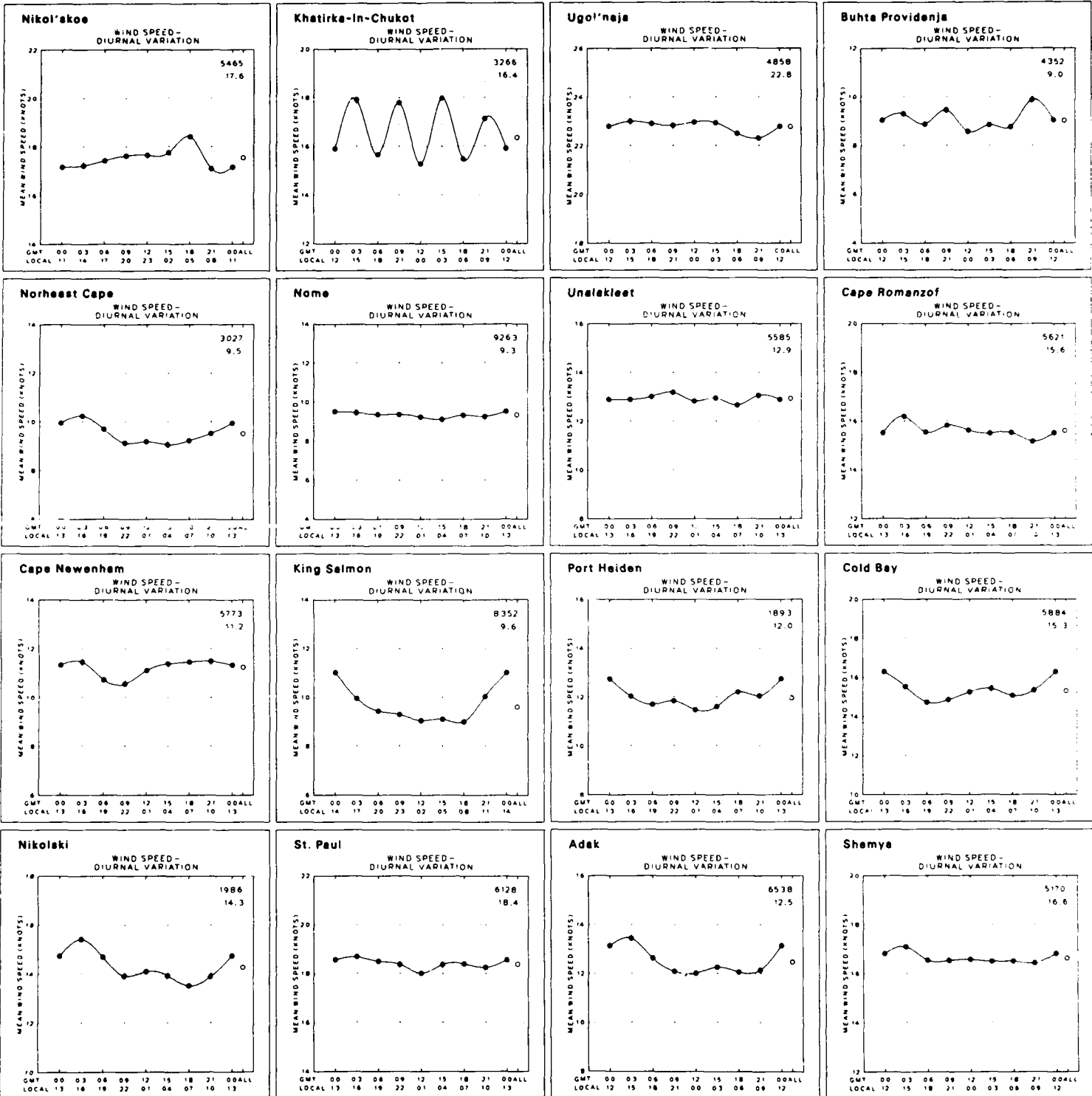


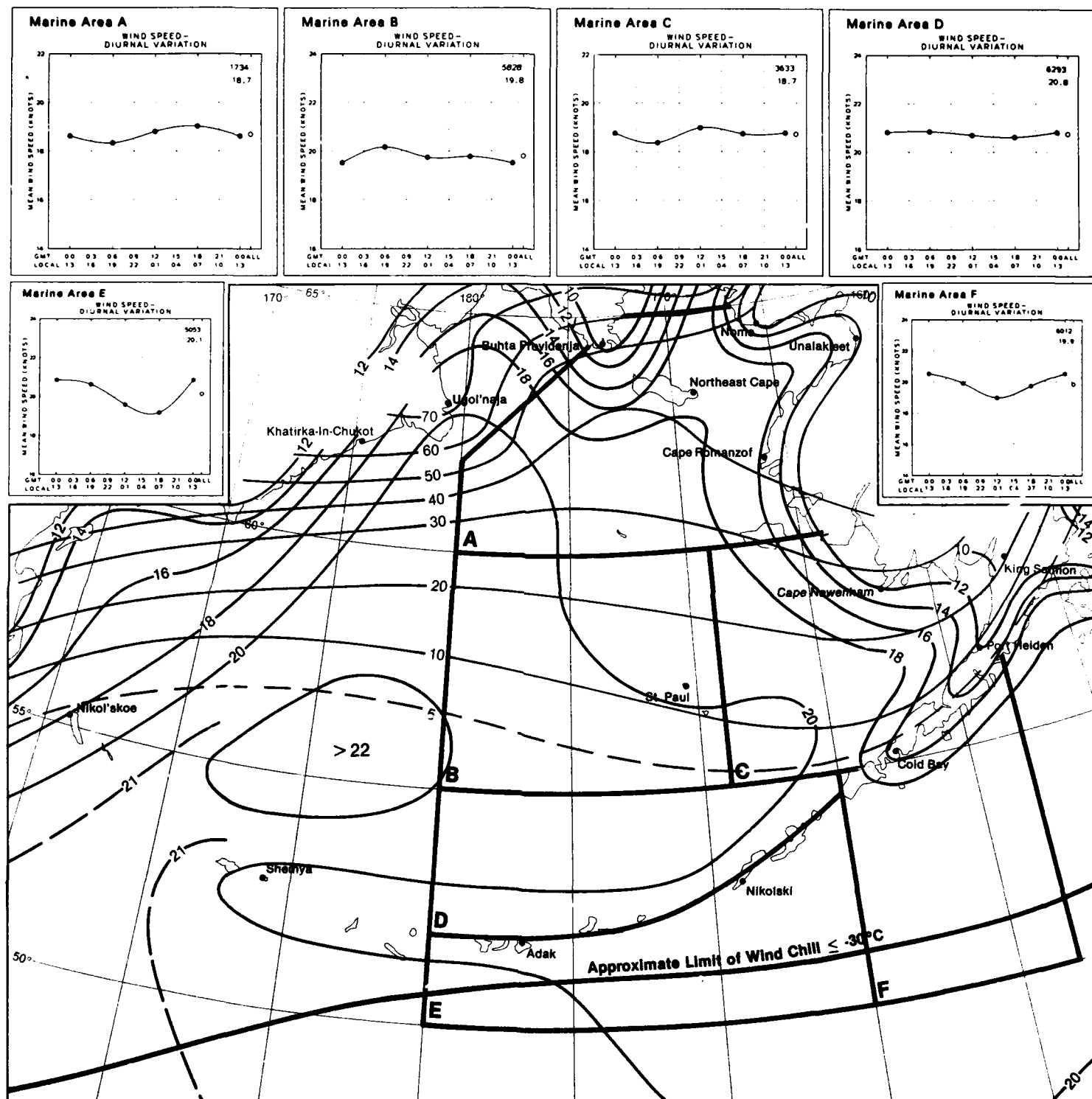
In areas of high persistence (also called constancy, steadiness) of direction, the magnitude of the vector mean wind (Set 10) should closely approach that of the scalar mean wind (set 13). As most of the marine observations are recorded at six-hour intervals (00, 06, 12, 18 GMT), intermediate hours (03, 09, 15, 21 GMT) were not plotted on the graphs for the marine areas. Intermediate hours were plotted for the stations, but users should use caution in interpreting plots for those few stations that reported less than eight observations per day—see the data inventory in the introductory text for Section II.



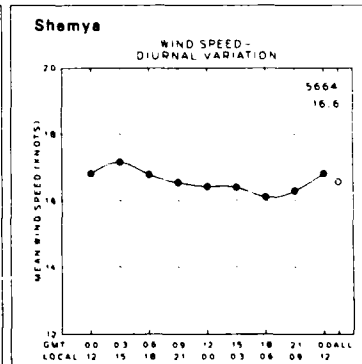
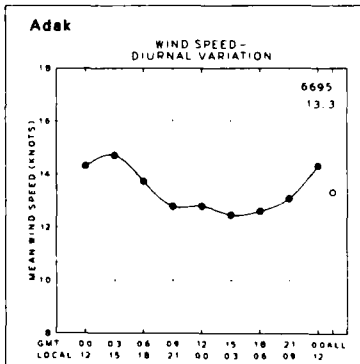
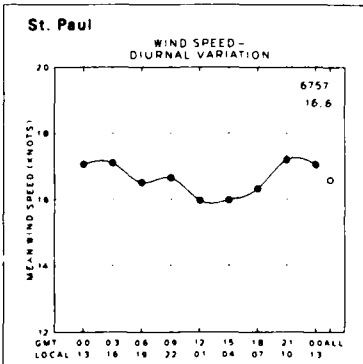
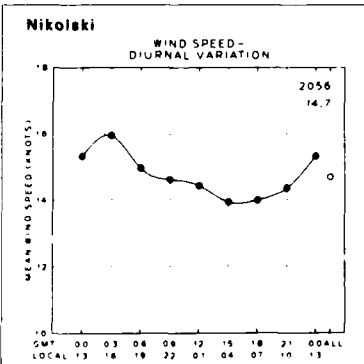
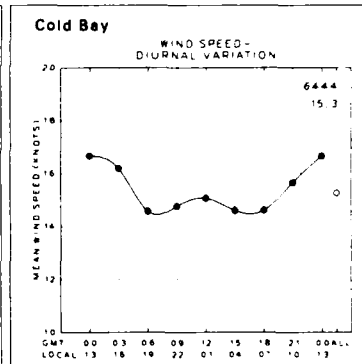
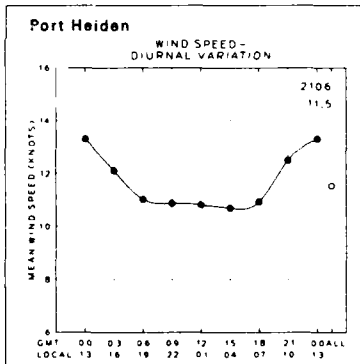
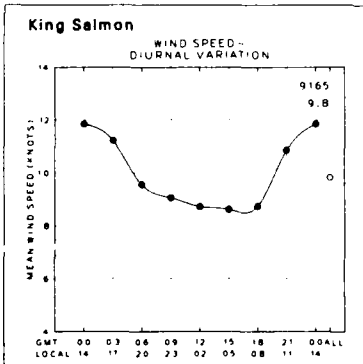
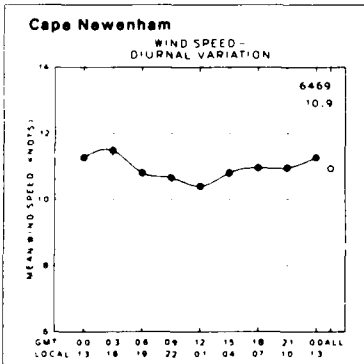
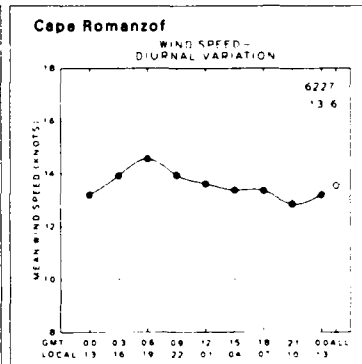
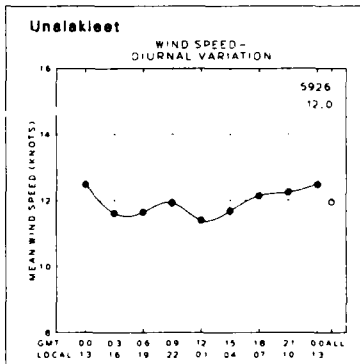
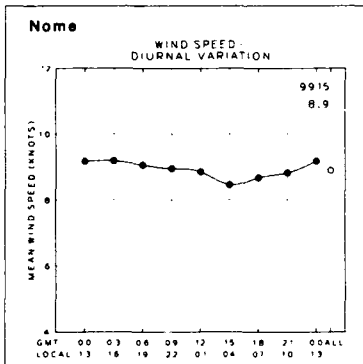
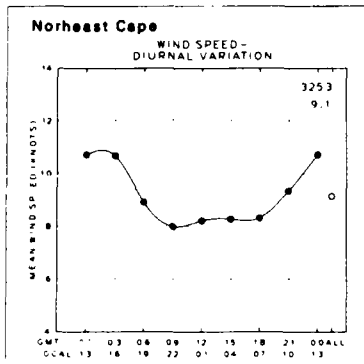
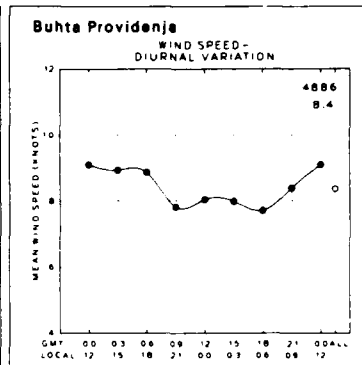
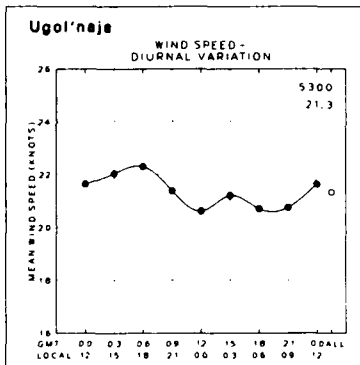
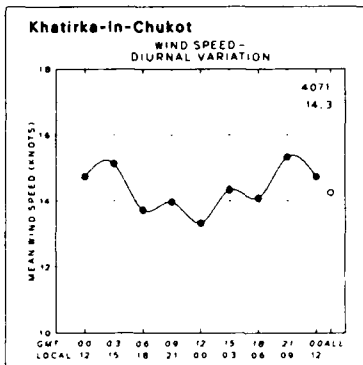
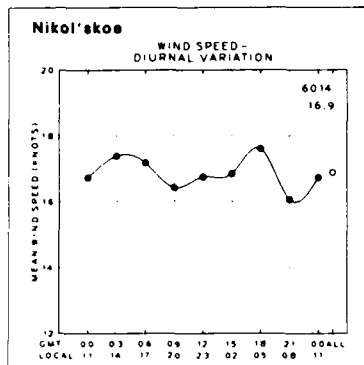

13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

January



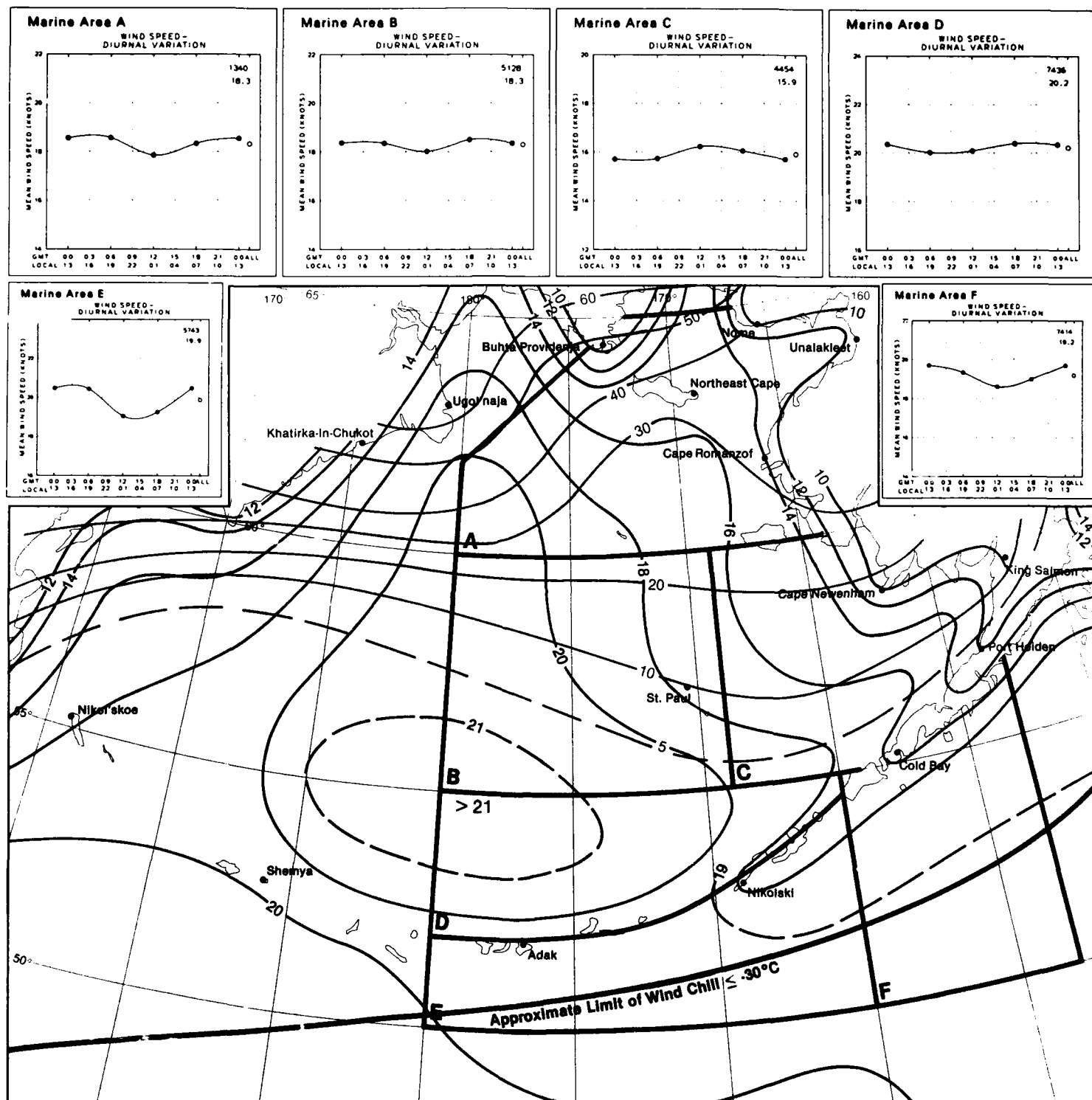

13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

February



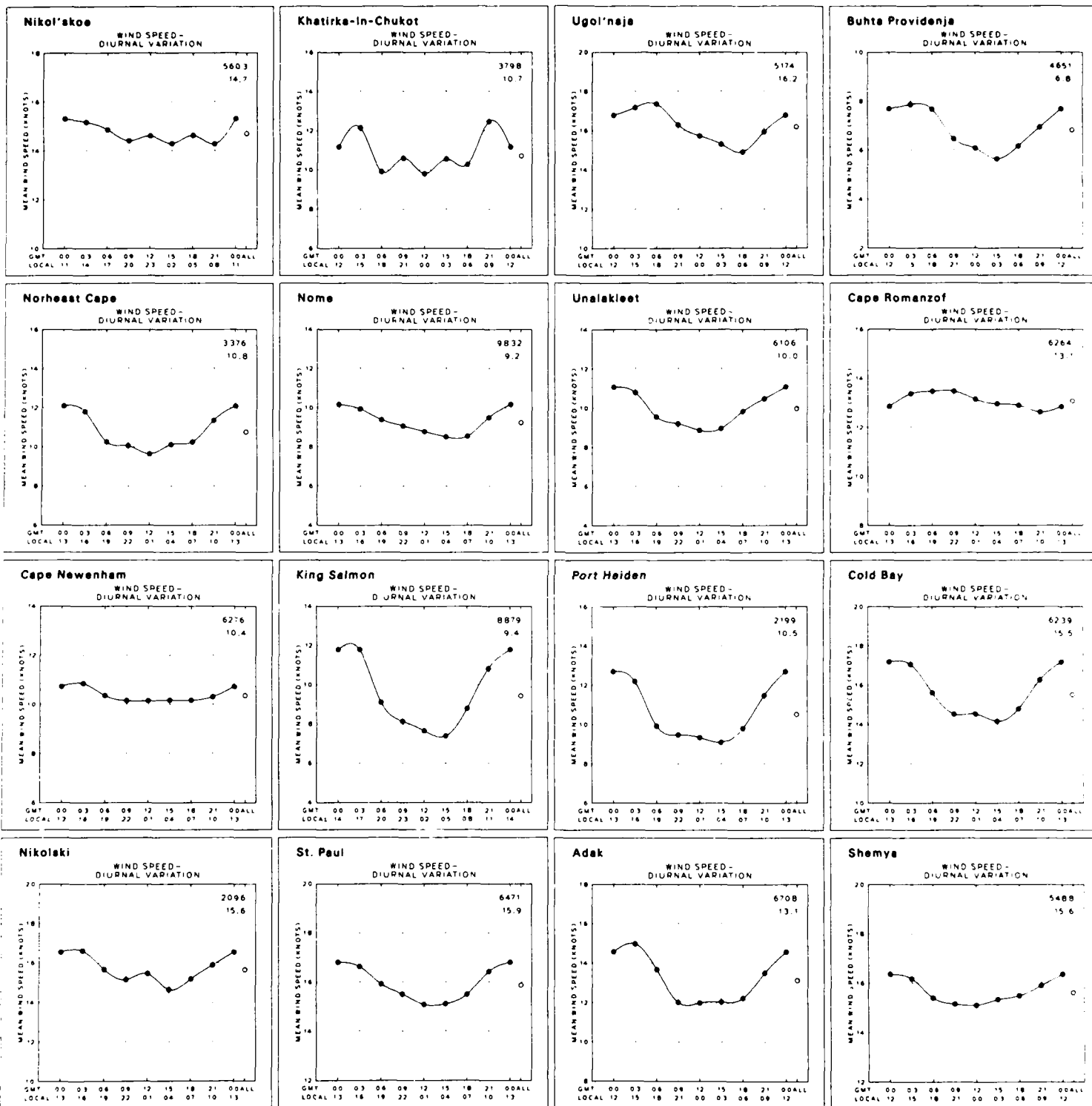
March

13 Wind Speed and Diurnal Variation

13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

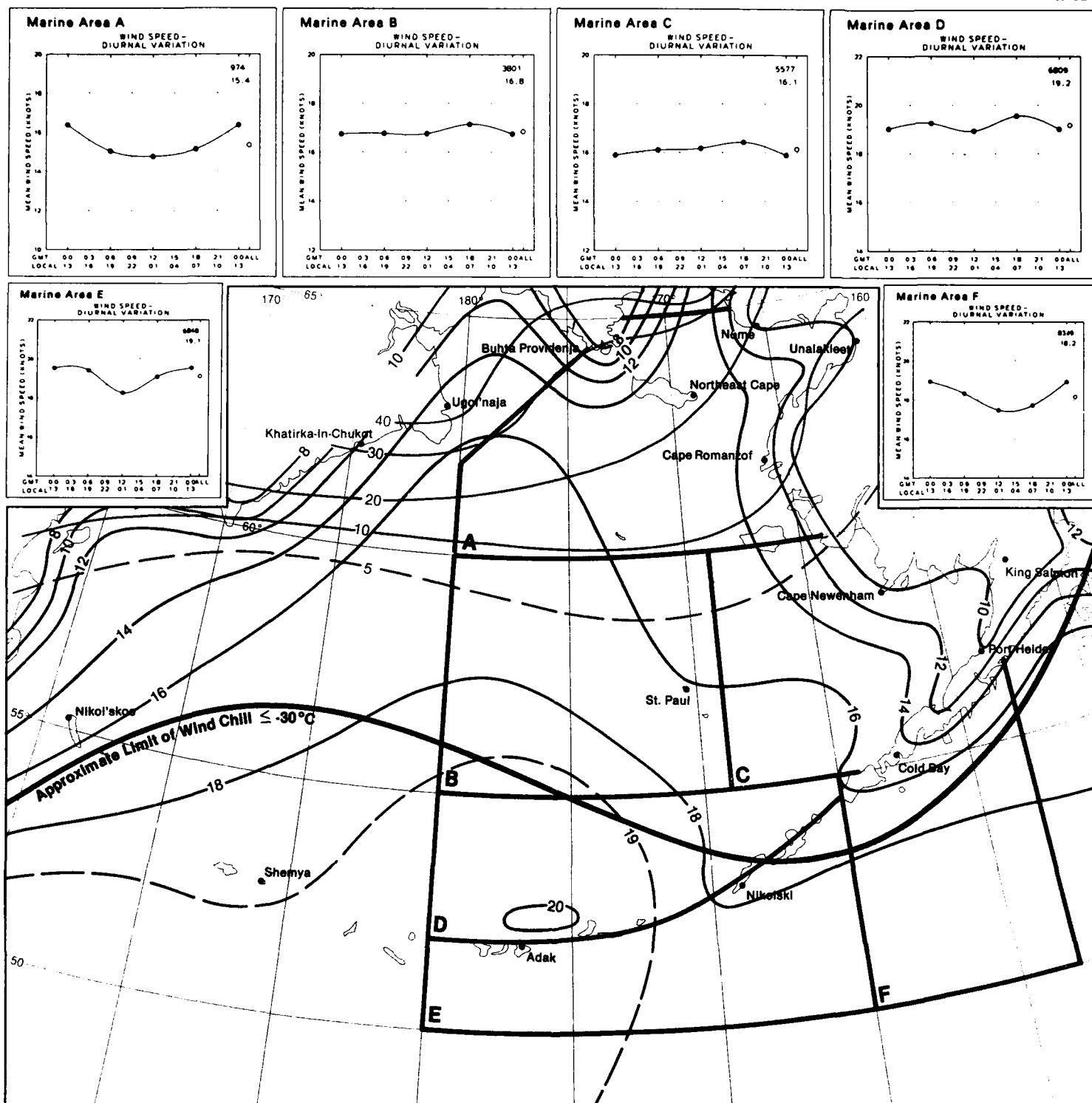
March



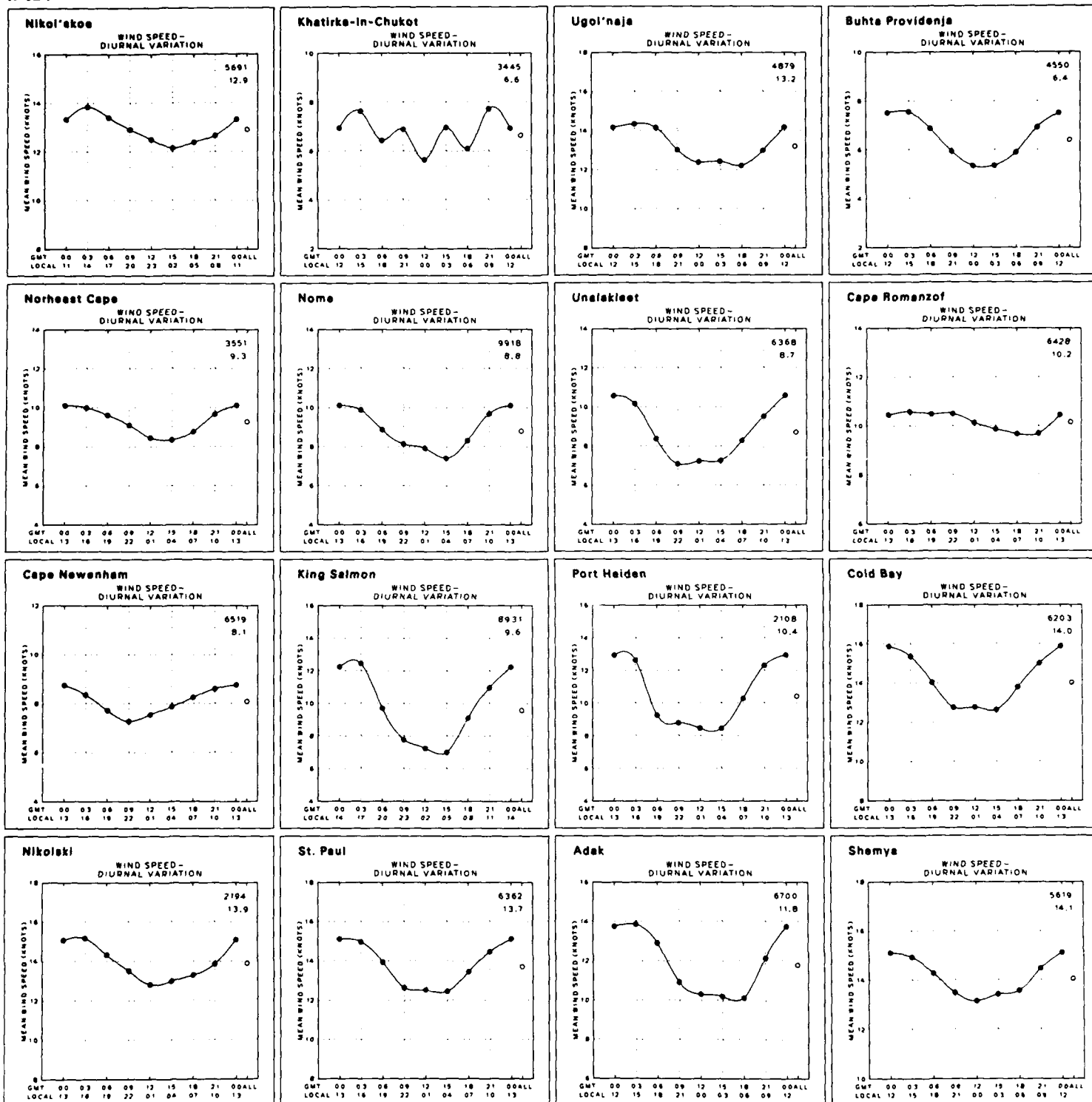


April

13 Wind Speed and Diurnal Variation

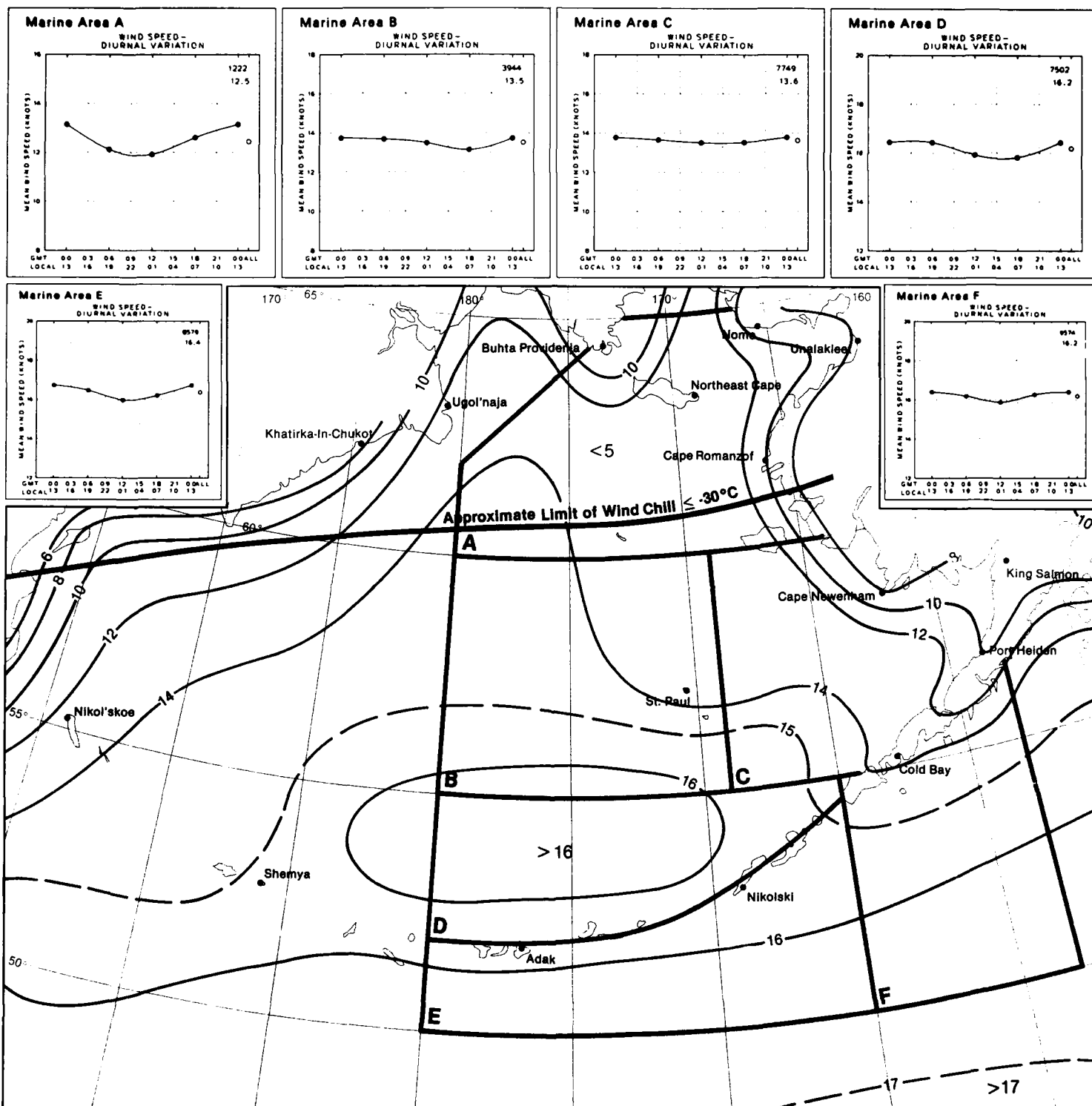

13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

April

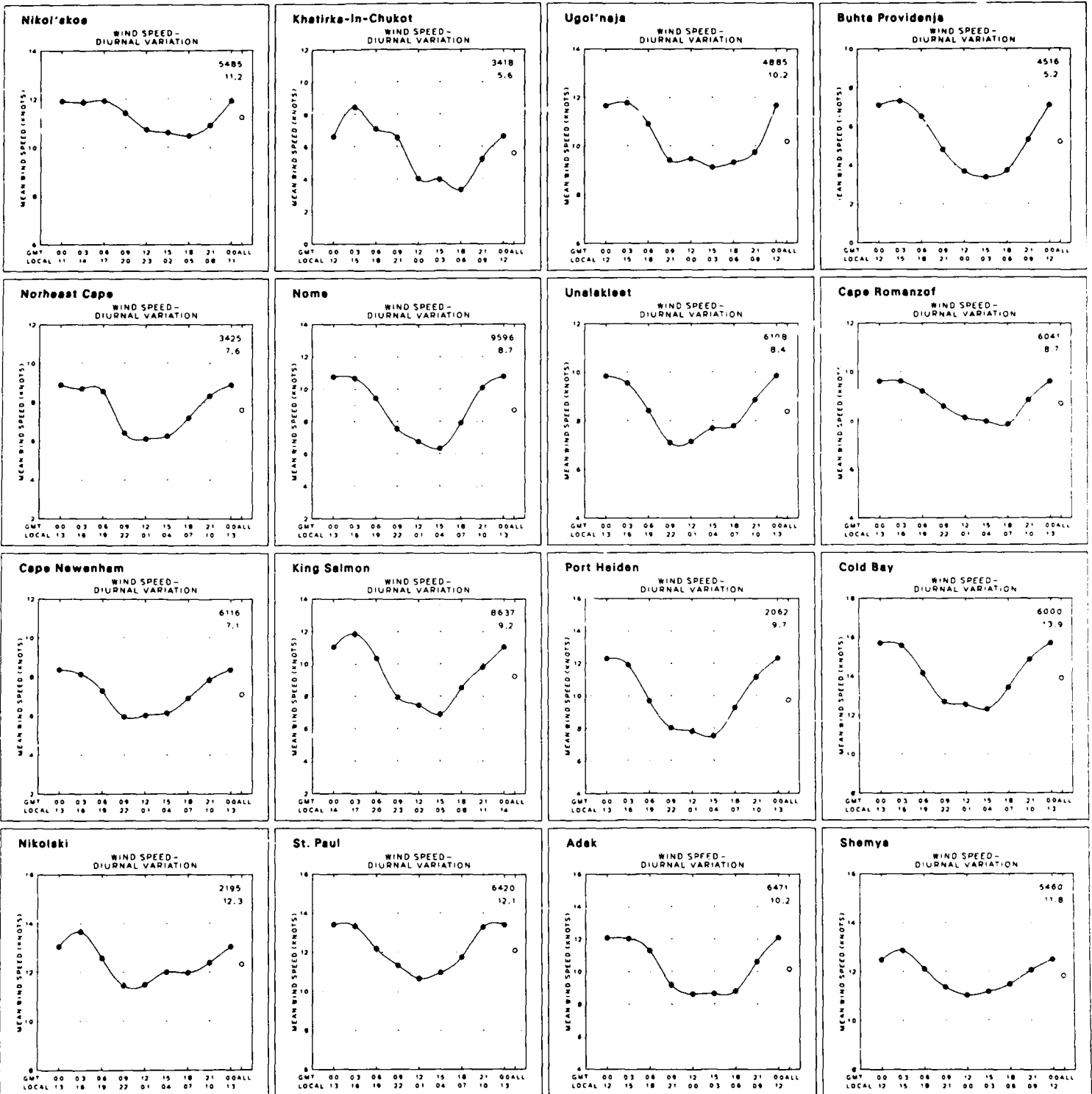


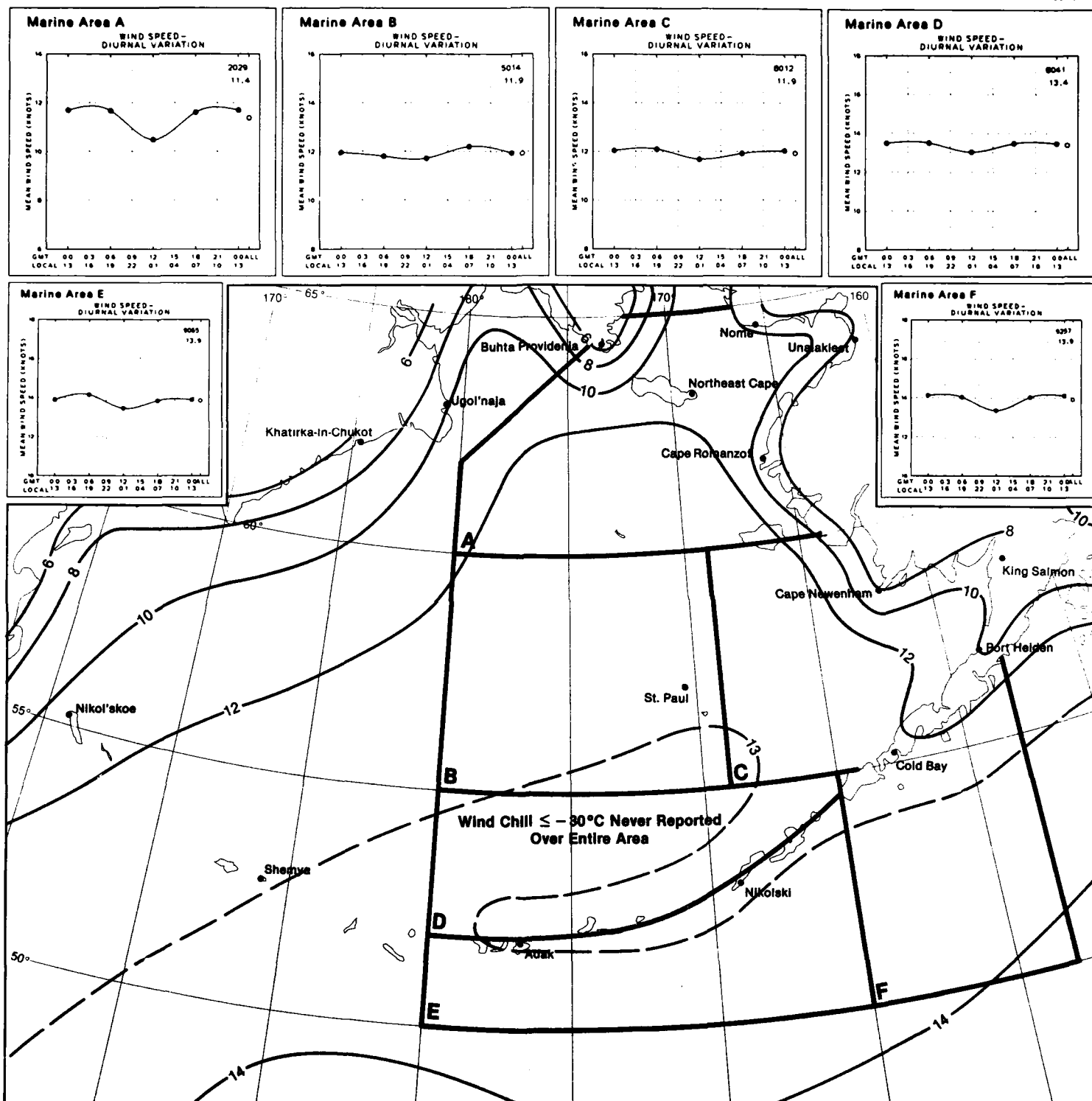
May

13 Wind Speed and Diurnal Variation


13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

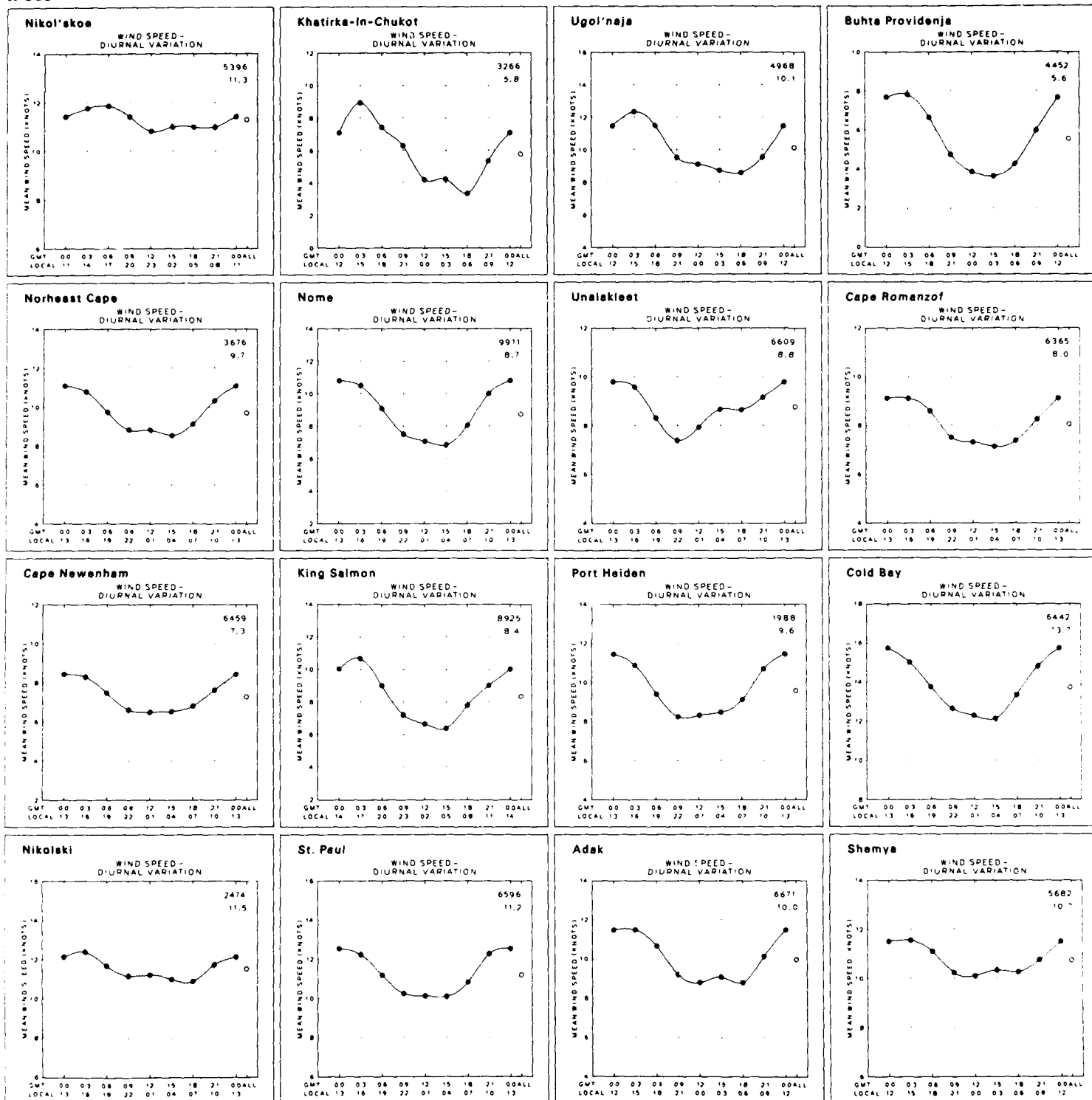
May





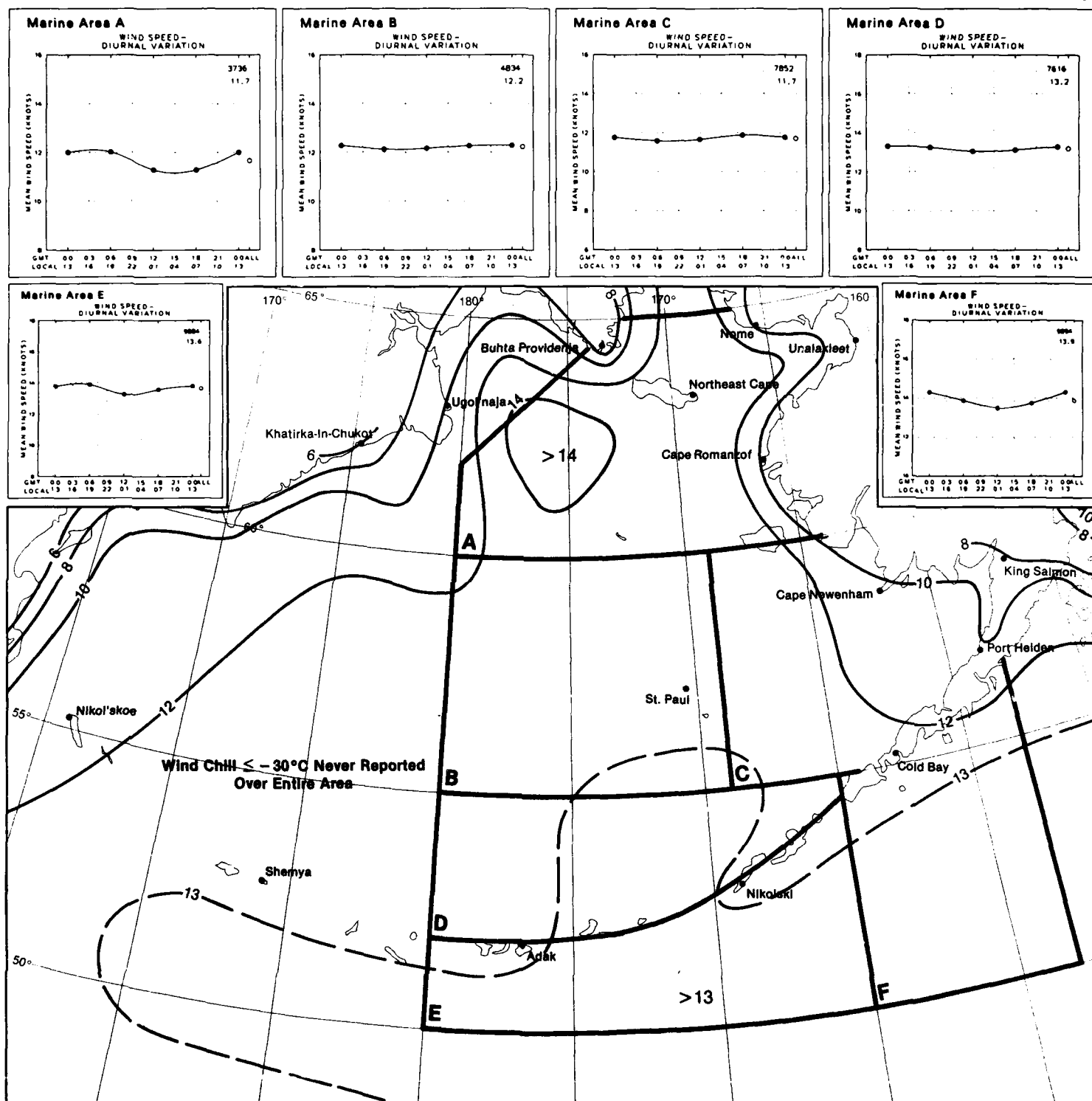
13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$

June



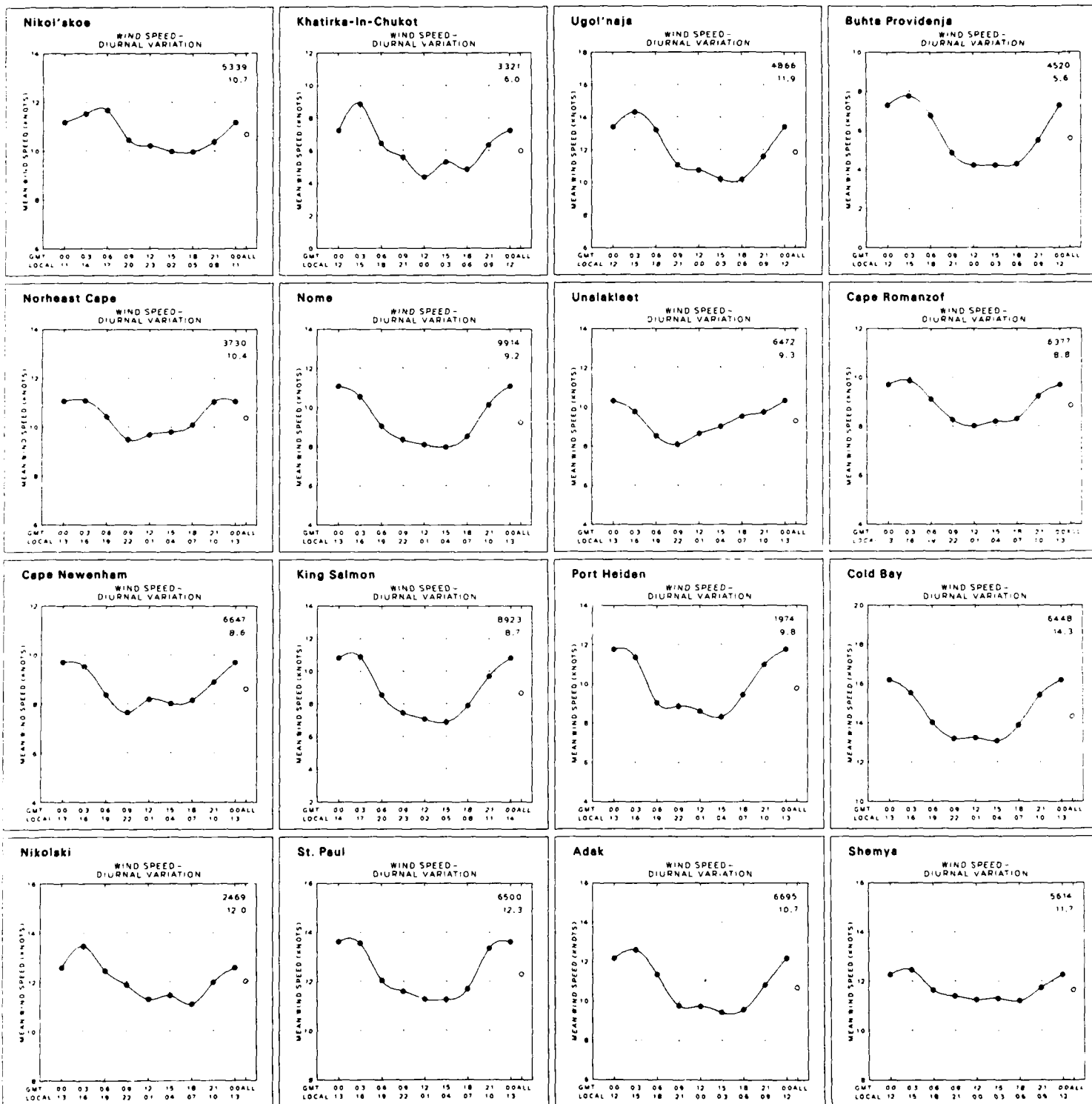
July

13 Wind Speed and Diurnal Variation


13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

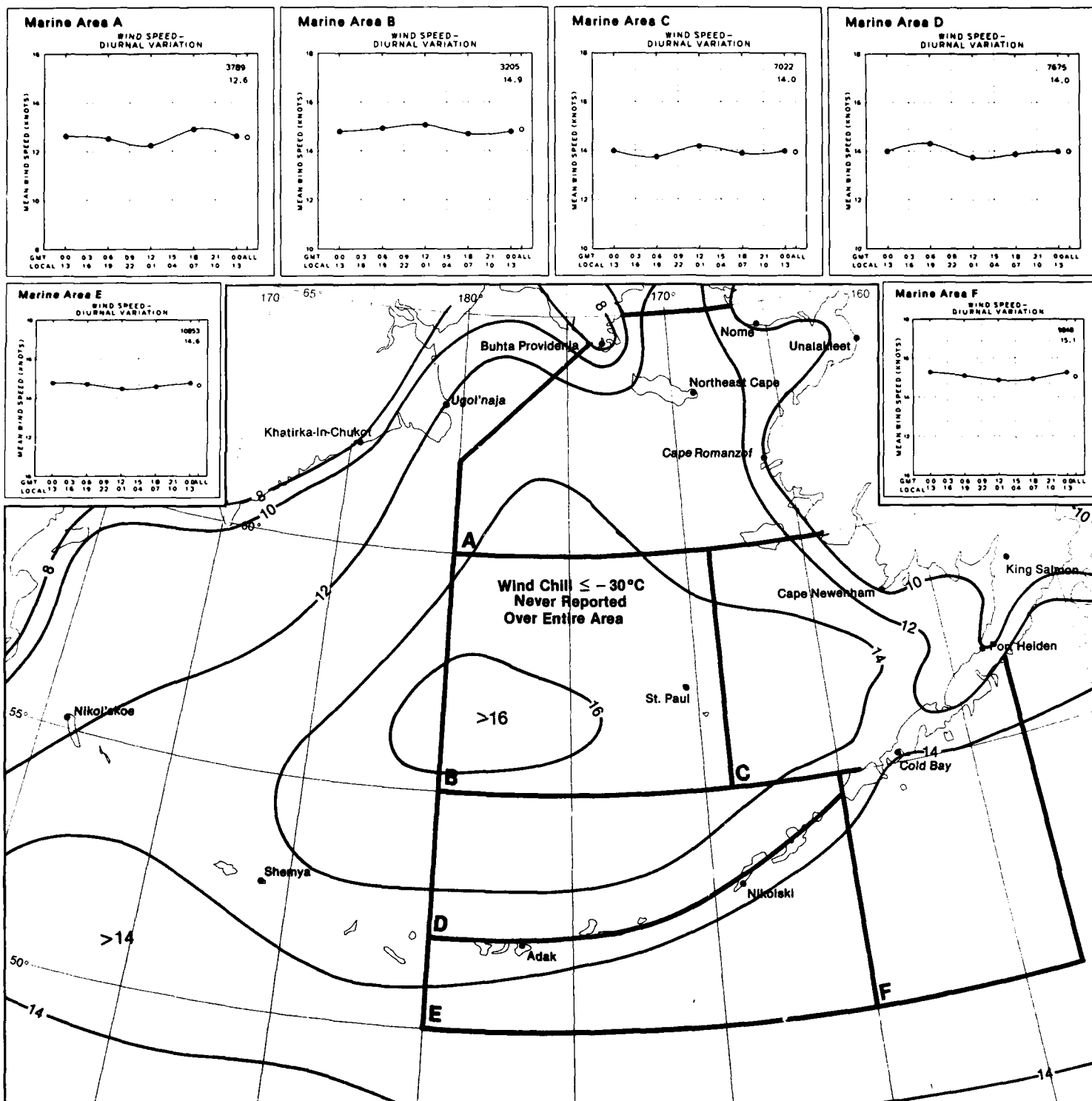
July



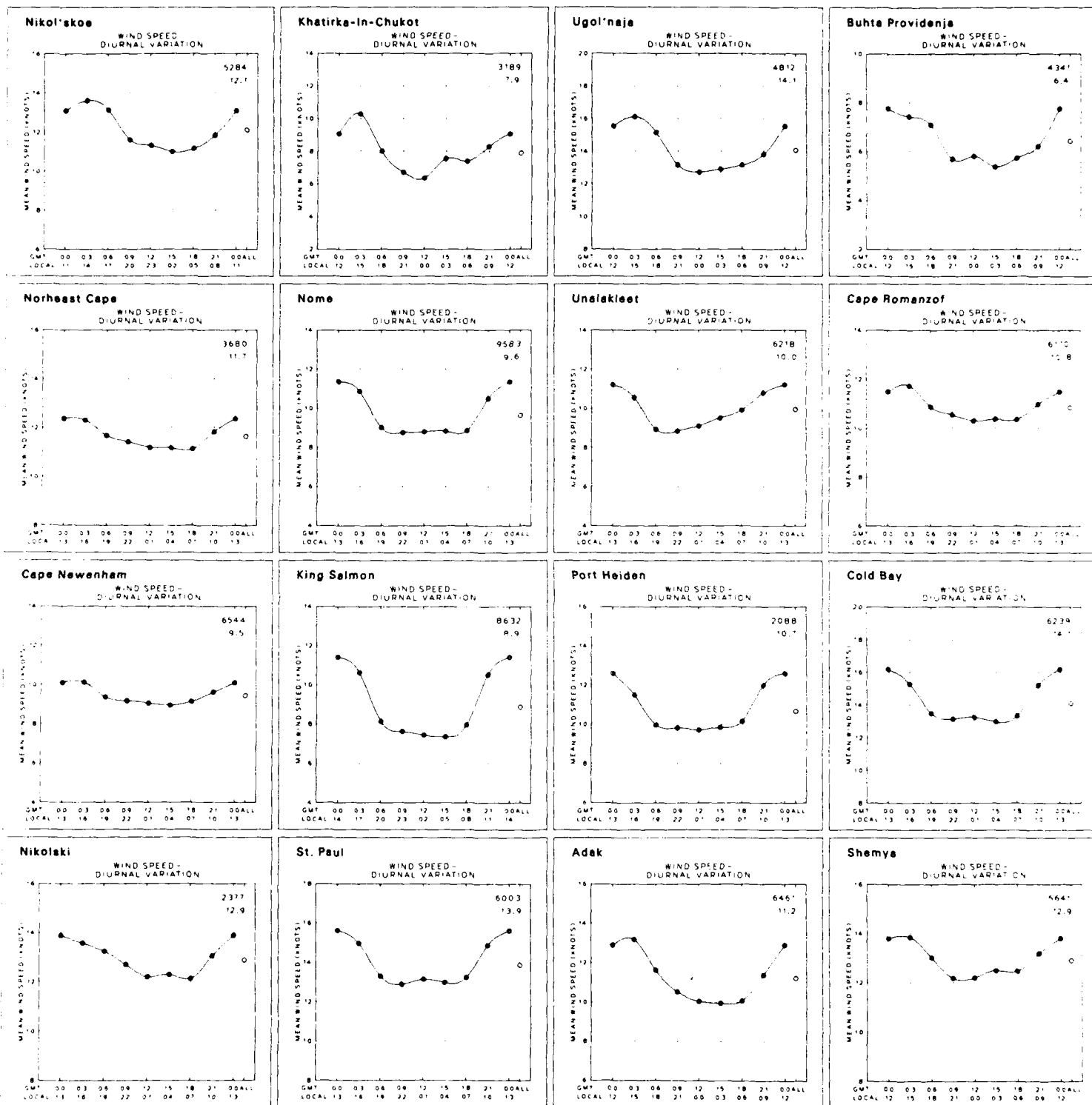


August

13 Wind Speed and Diurnal Variation

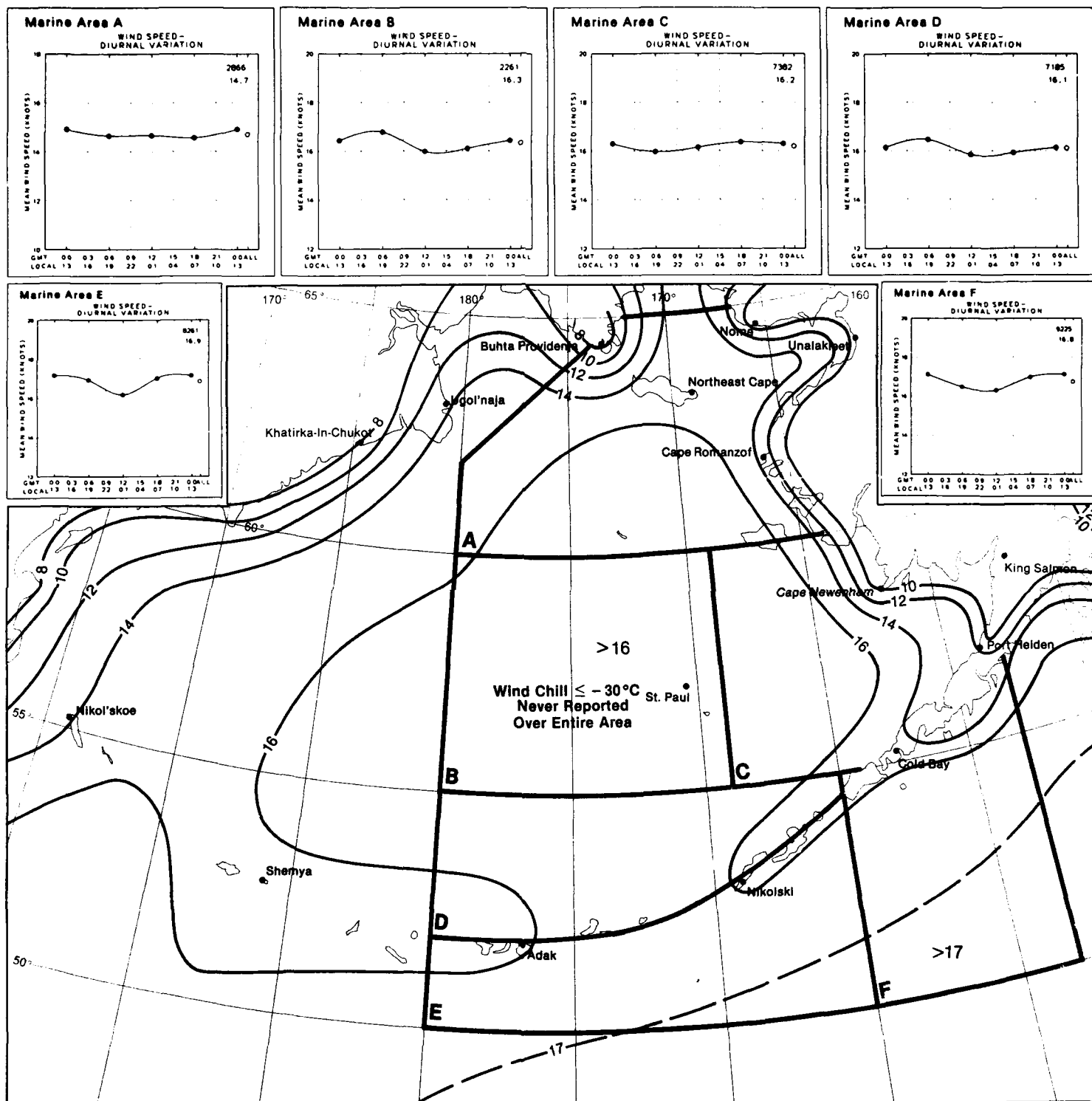

13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

August

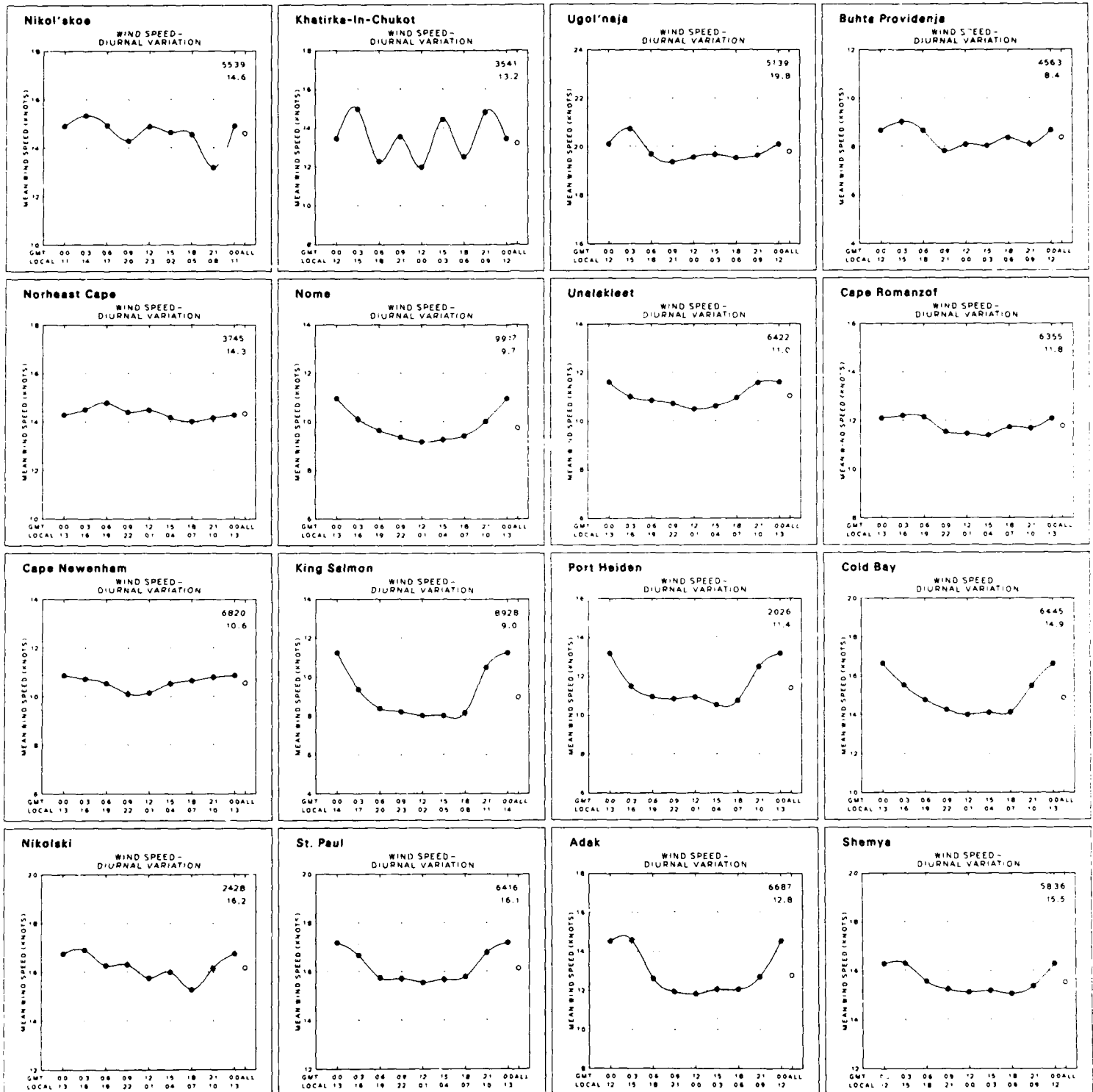


September

13 Wind Speed and Diurnal Variation

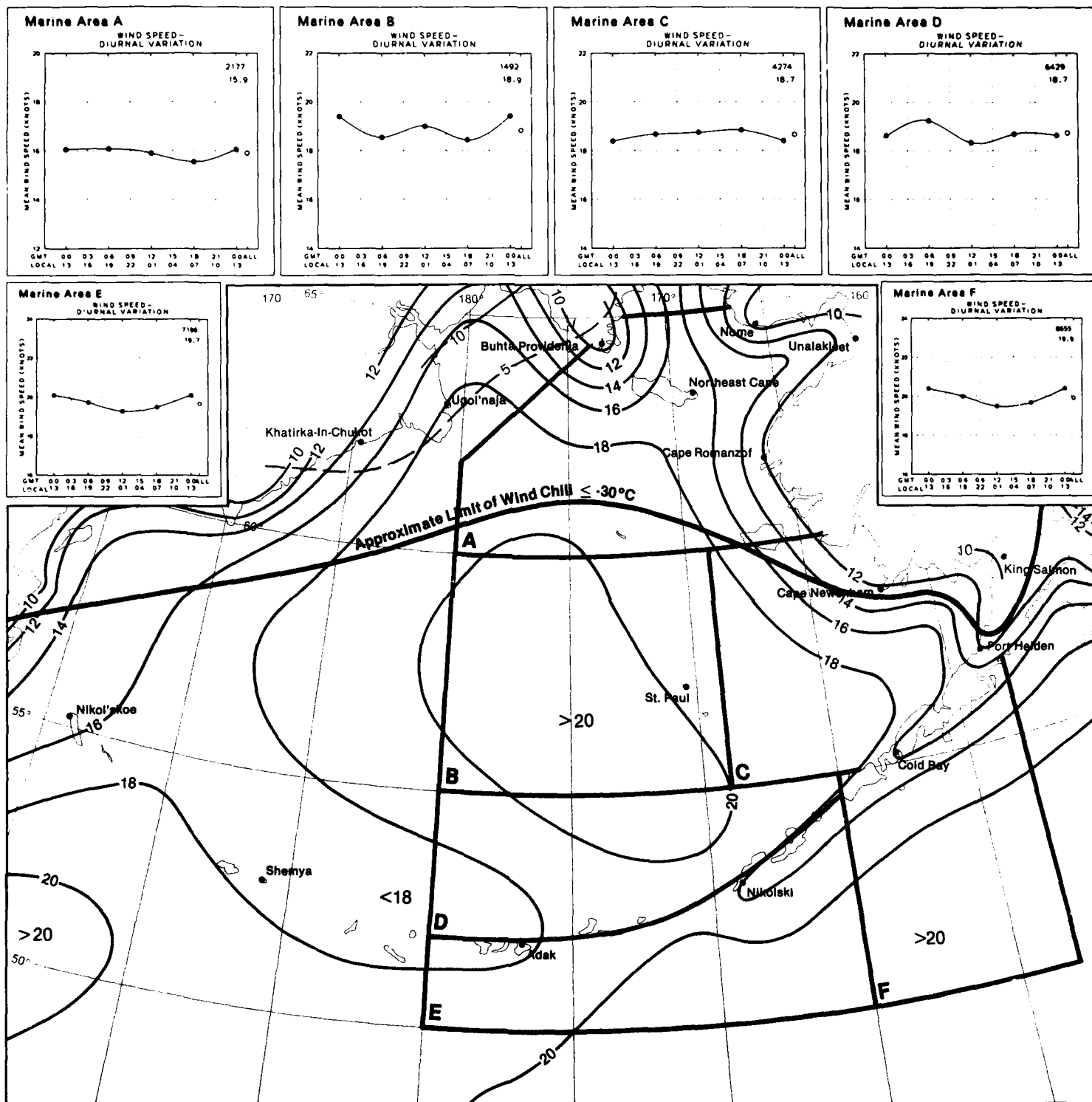

13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

September

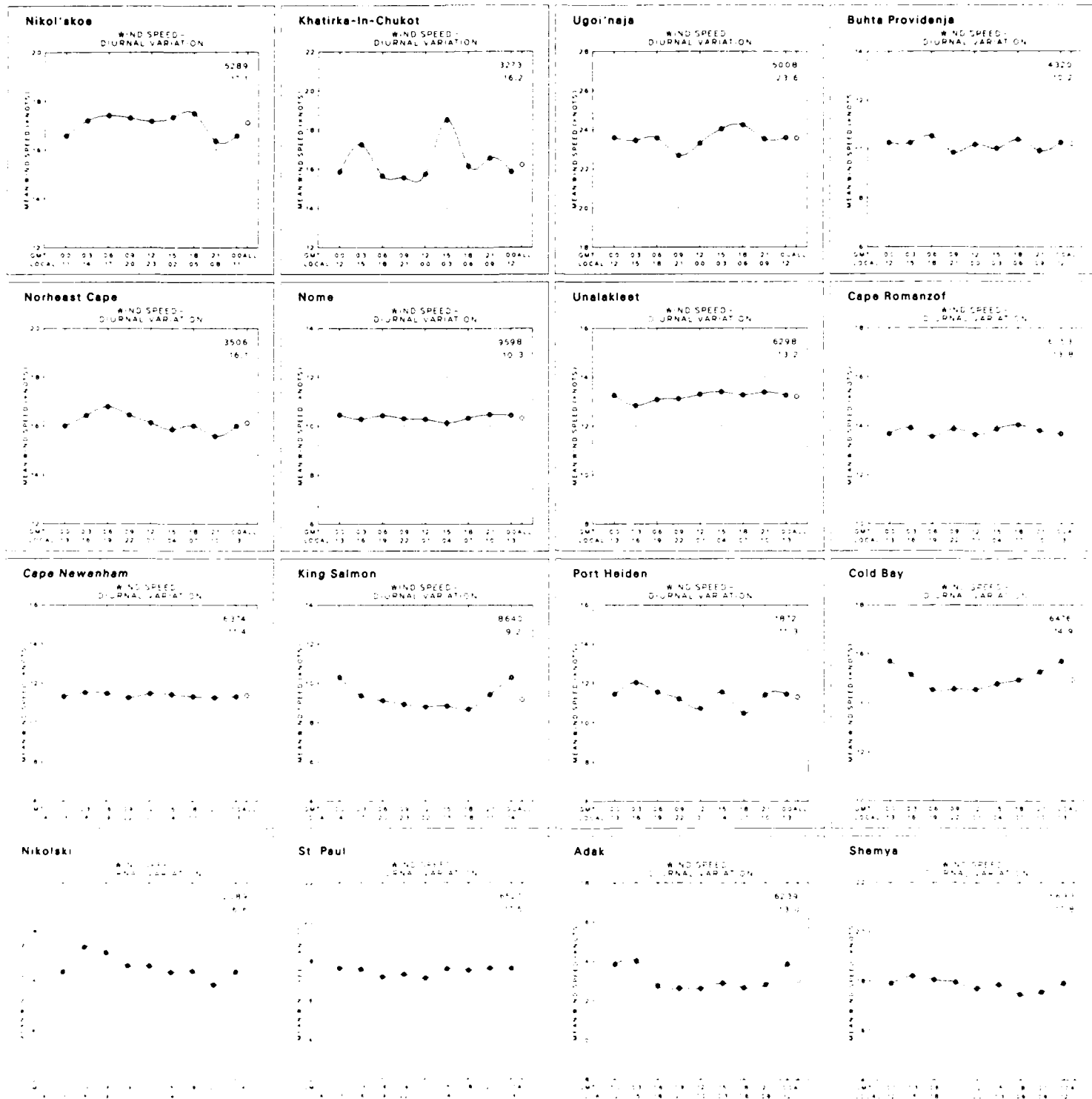


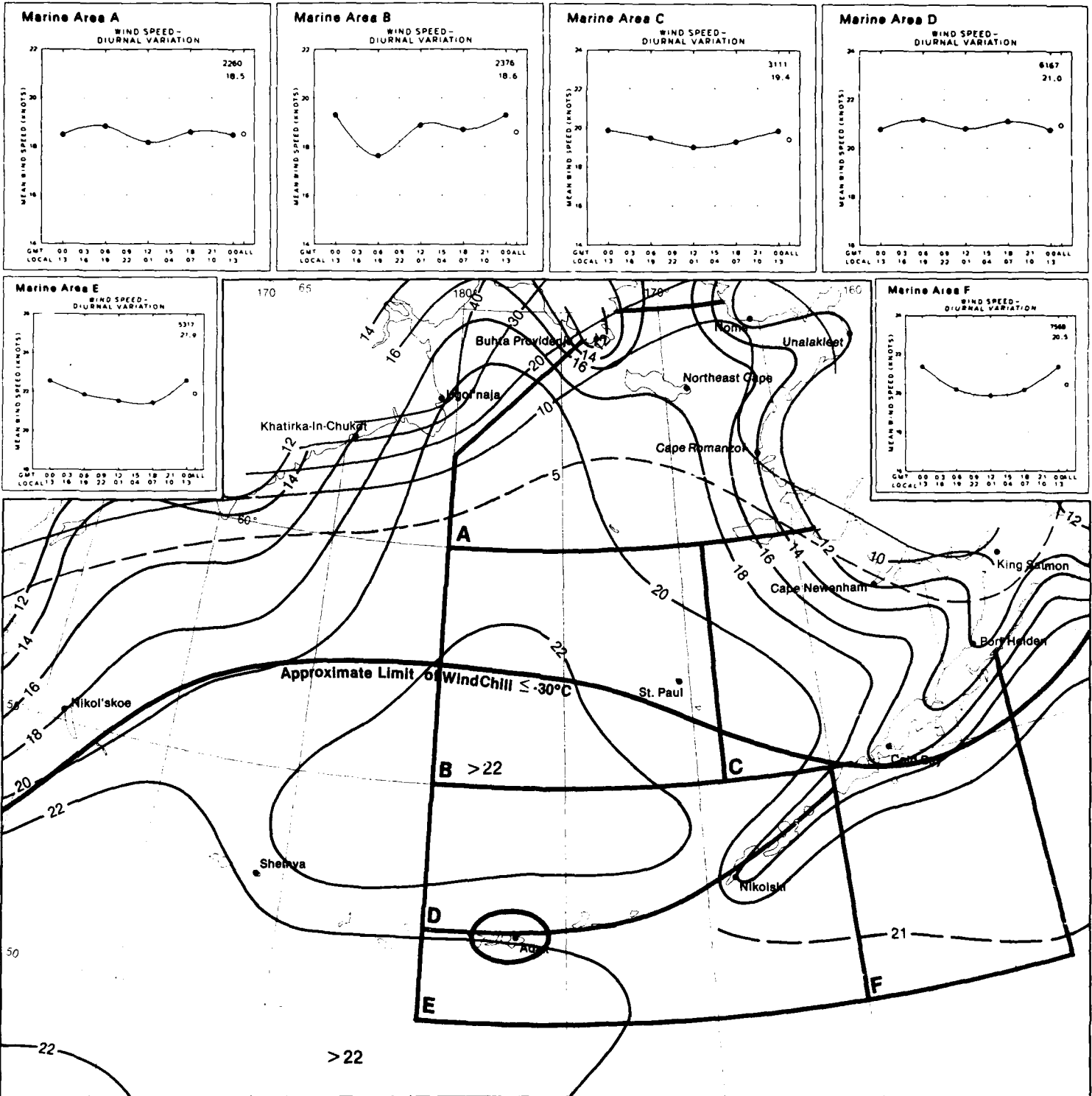
October

13 Wind Speed and Diurnal Variation


13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$ 

October

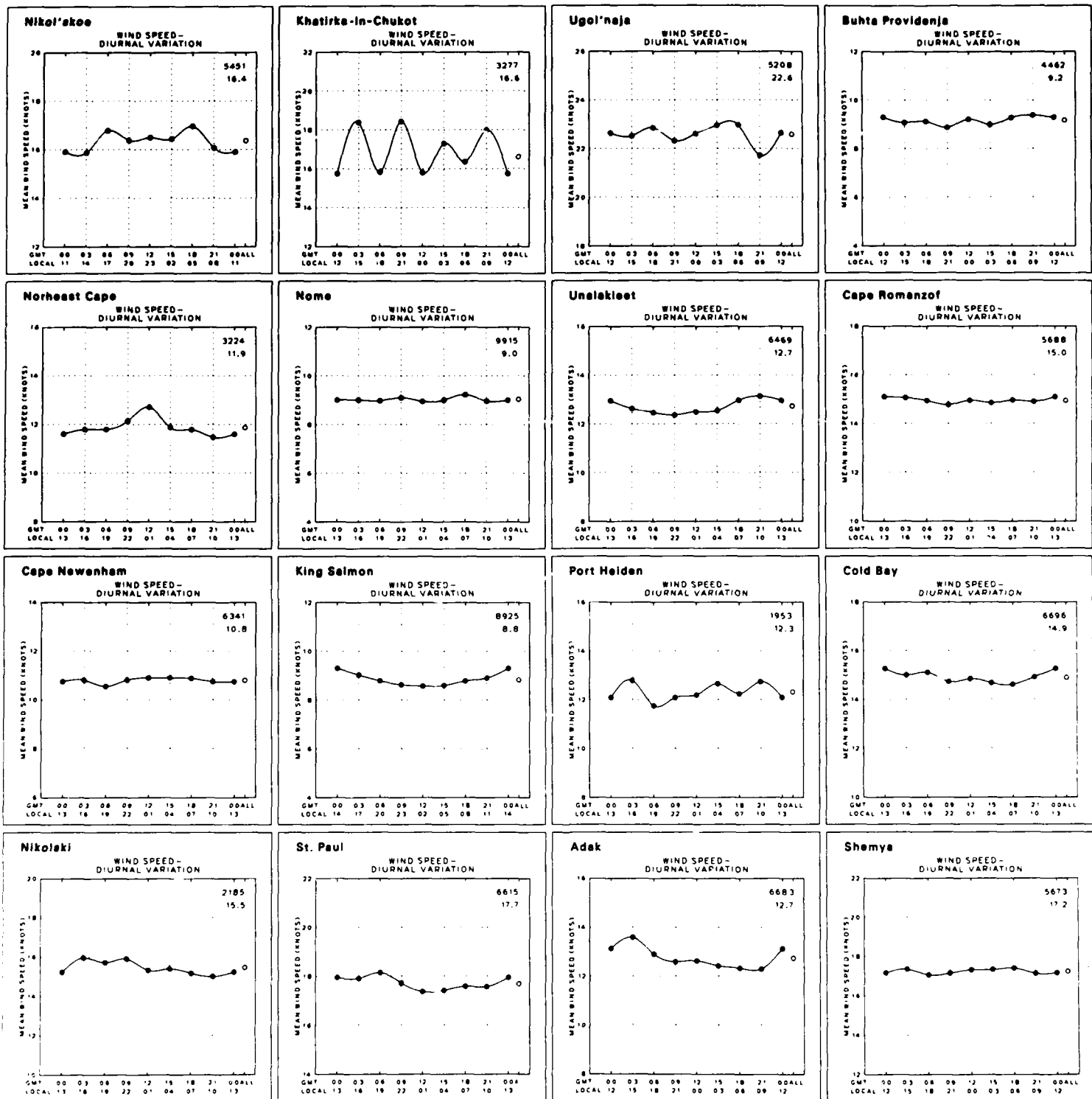


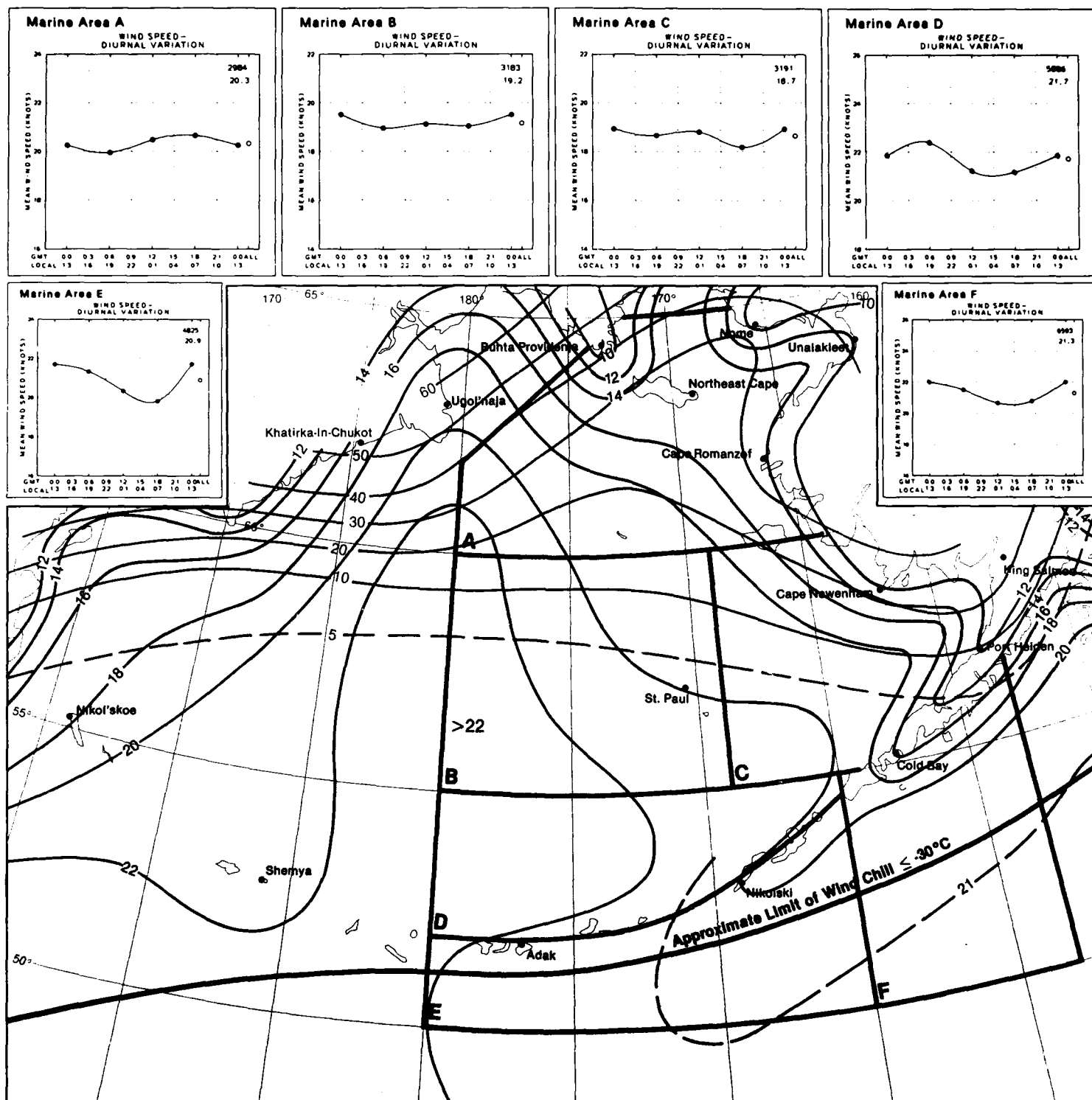


13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$

November







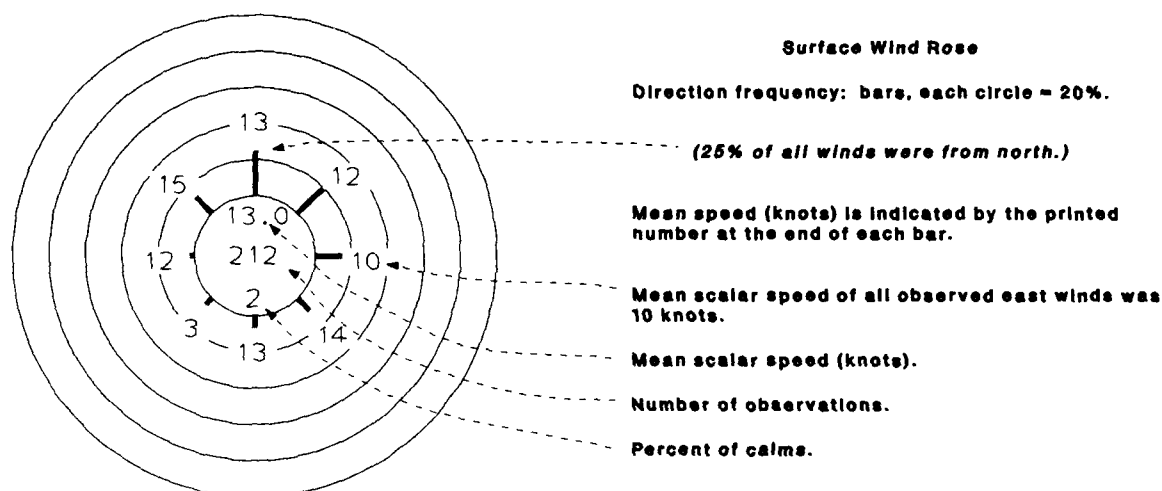
13 Scalar Mean Wind and Wind Chill Temperature  $\leq -30^{\circ}\text{C}$

December

## Map 14. Wind speed and direction

ROSE – Percent frequency of wind observations by direction (8-points).

Albers Equal-Area Conic Projection



Wind is measured in terms of velocity, a vector that gives both wind speed and direction. **True wind** is the wind that is experienced by an observer standing still. When the ship is moving, an observer experiences what is termed an **apparent wind**. The speed and course of the ship must be eliminated from the apparent wind to obtain the true wind, which is needed for meteorological purposes. Wind estimated from the appearance of the sea surface is a true wind, while wind determined by the appearance of the ship's rigging or by a shipboard anemometer is an apparent wind. True wind direction may be estimated by observing the direction from which ripples, small waves, and sea spray are coming, since they run with the wind. The direction from which the waves are coming is most easily found by sighting along the wave crests and then turning 90° to face the advancing waves. The observer is then facing the direction from which the waves are coming. The direction is determined to the nearest 10° with respect to true north. The true wind speed is the average speed of the wind blowing near the sea surface. Information in the following table is used to estimate the true wind speed based upon the condition of the sea surface. Refer to the text in Set 11 for additional descriptive information on winds.

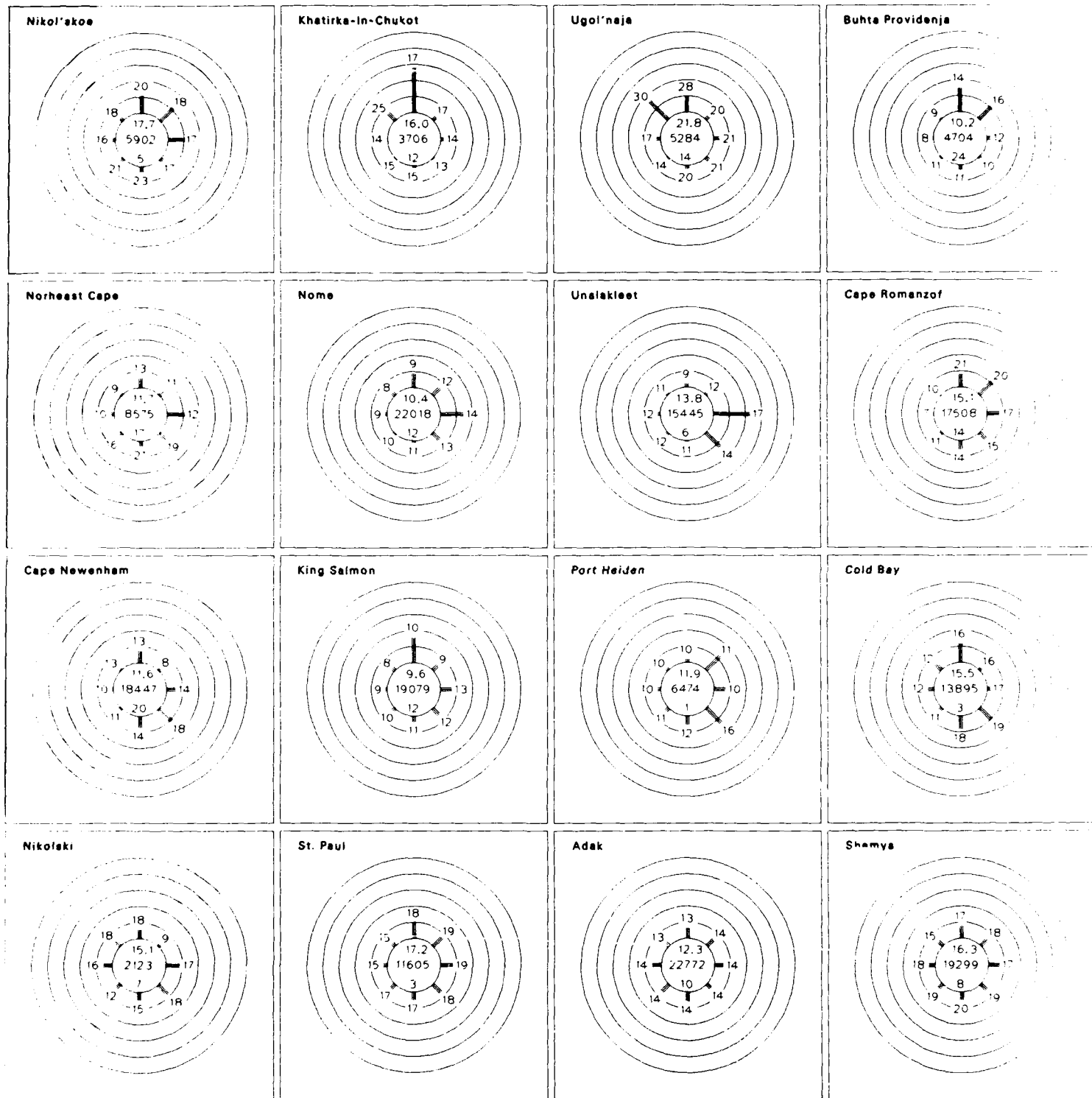
### WIND SPEED IN KNOTS (WMO Code, 1982)

This table is based on sea conditions over deep water with a fully developed sea. There will be frequent cases where the sea will not be fully developed because the wind has not blown long enough over a sufficient distance (fetch). Other factors such as currents and water depth will also affect the look of the sea.

Code figs. (Knots)	Beaufort	Description	Sea criterion when sea fully developed	Probable ht. of waves in m (ft)			
				Average		Maximum	
00	0	Calm	Sea like a mirror .....	—		—	
01-03	1	Light air	Ripples with the appearance of scales are formed, but without foam crests .....	0.1	( $\frac{1}{4}$ )	0.1	( $\frac{1}{4}$ )
04-06	2	Light breeze	Small wavelets, still short but more pronounced, crests have a glassy appearance and do not break .....	0.2	( $\frac{1}{2}$ )	0.3	(1)
07-10	3	Gentle breeze	Large wavelets; crests begin to break; foam of glassy appearance; perhaps scattered white horses .....	0.6	(2)	1	(3)
11-16	4	Moderate breeze	Small waves, becoming longer; fairly frequent white horses .....	1	( $3\frac{1}{2}$ )	1.5	(5)
17-21	5	Fresh breeze	Moderate waves, taking a more pronounced long form; many white horses are formed (chance of some spray) ..	2	(6)	2.5	( $8\frac{1}{2}$ )
22-27	6	Strong breeze	Large waves begin to form; white foam crests are more extensive everywhere (probably some spray) .....	3	( $9\frac{1}{2}$ )	4	(13)
28-33	7	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind .....	4	( $13\frac{1}{2}$ )	5.5	(19)
34-40	8	Gale	Moderately high waves of greater length; edges of crests begin to break into the spindrift; the foam is blown in well-marked streaks along the direction of the wind .....	5.5	(18)	7.5	(25)
41-47	9	Strong gale	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble and roll over; spray may affect visibility .....	7	(23)	10	(32)
48-55	10	Storm	Very high waves with long overhanging crests; the resulting foam, in great patches, is blown in dense white streaks along the direction of the wind; on the whole, the surface of the sea takes on a white appearance; tumbling of the sea becomes heavy and shock-like; visibility affected .....	9	(29)	12.5	(41)
56-63	11	Violent Storm	Exceptionally high waves (small and medium-sized ships might be for a time lost to view behind the waves); the sea is completely covered with long white patches of foam lying along the direction of the wind; everywhere the edges of the wave crests are blown into froth; visibility affected .....	11.5	(37)	16	(52)
64 and over	12	Hurricane	The air is filled with foam and spray; sea completely white with driving spray; visibility very seriously affected .....	14	(45)	—	XX

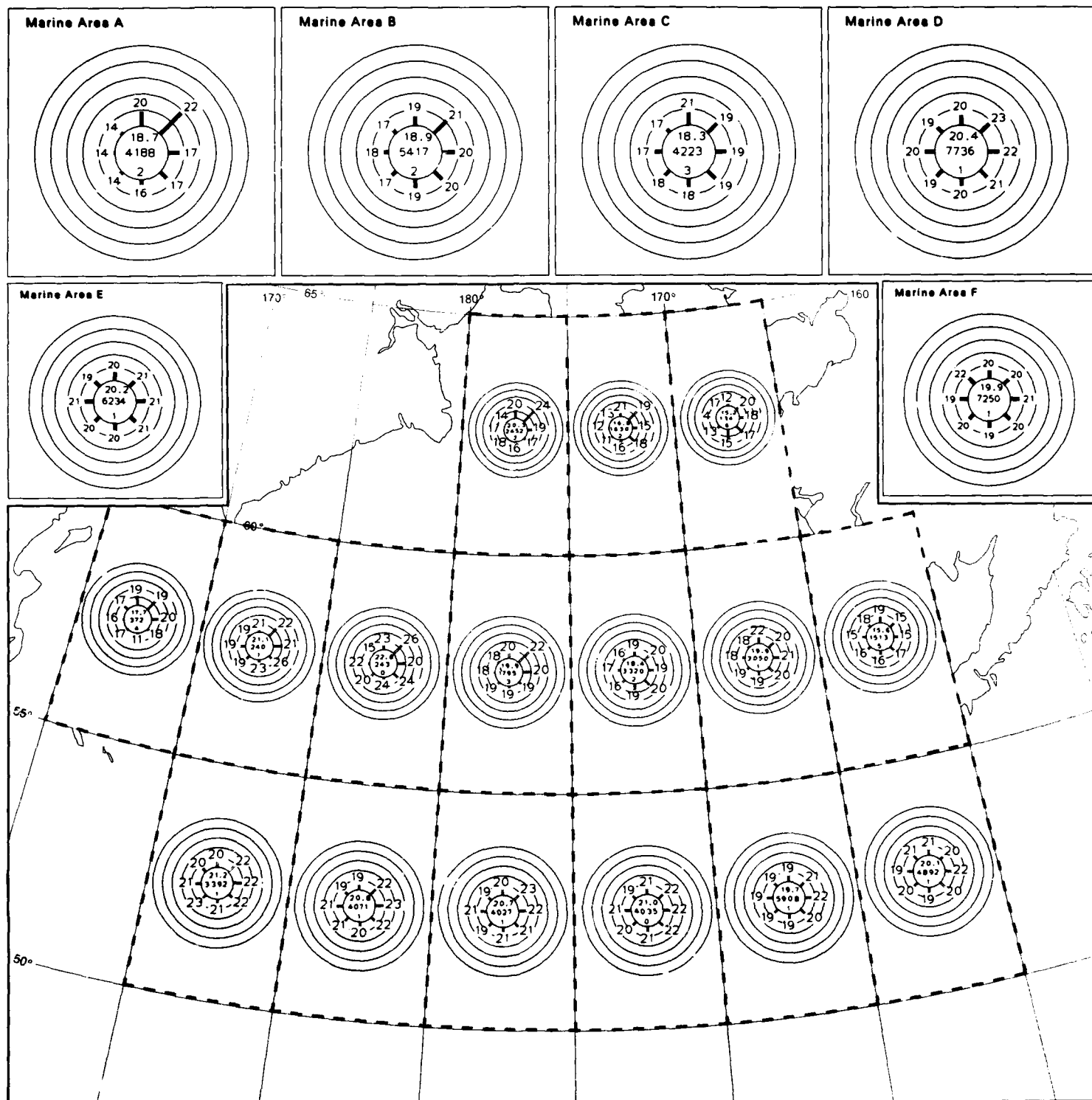
Note: For winds over 99 knots, add 50 to dd (direction) and enter the tens and units digits of the wind speed for ff; e.g. for a wind from 100° true at 125 knots, dd = 60, and ff = 25.

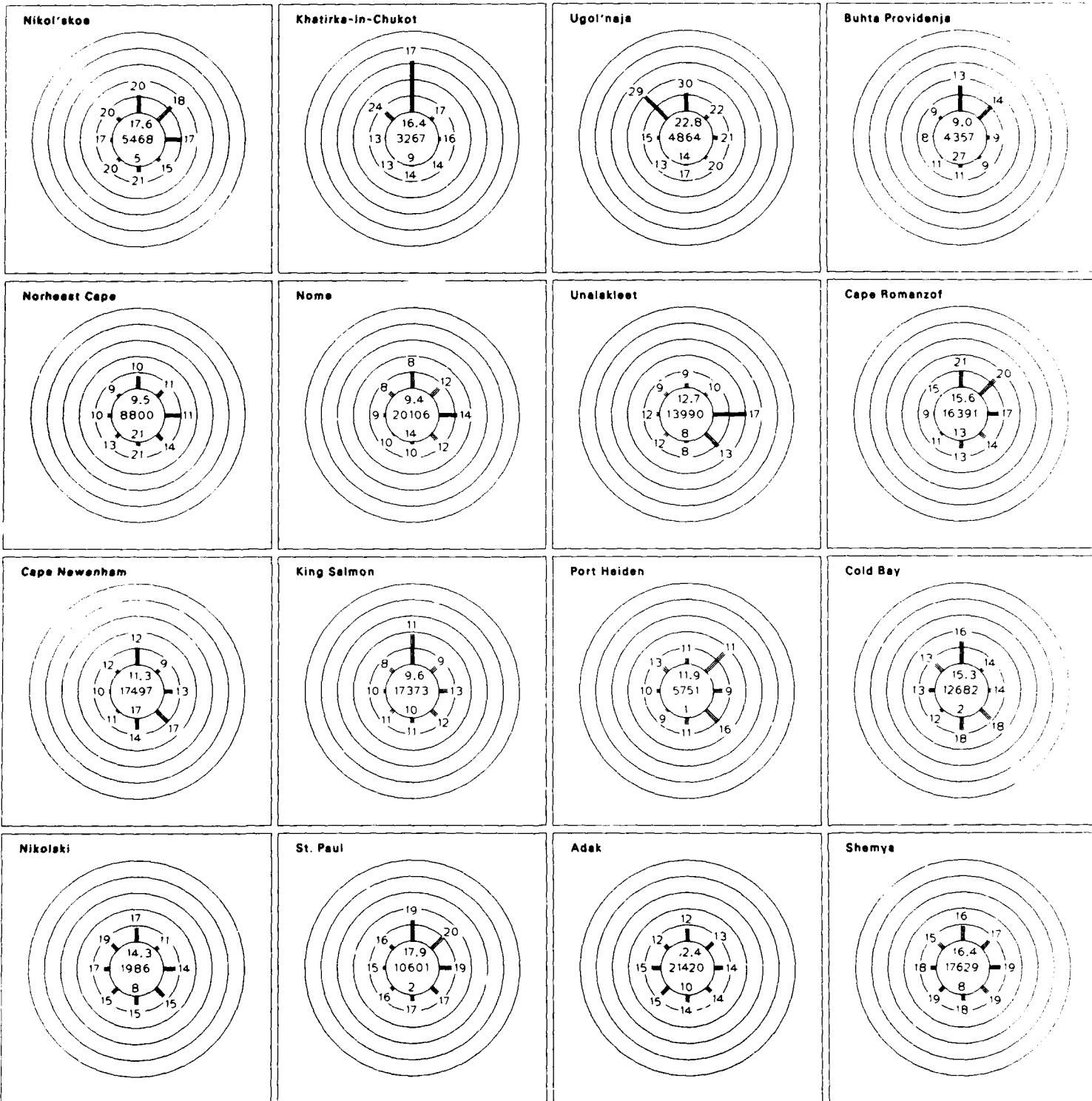
II-344



January

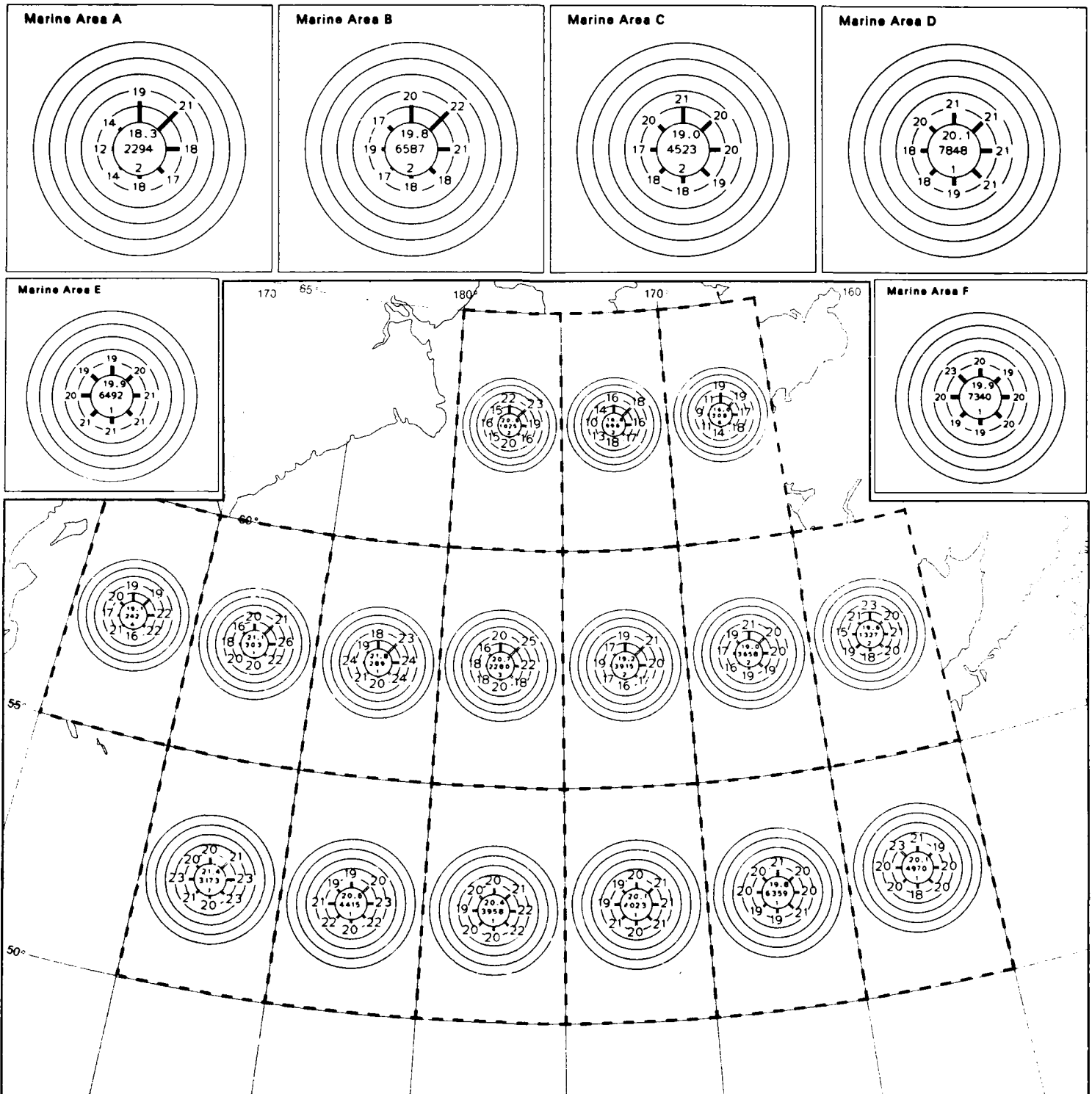
14 Wind Speed and Direction





February

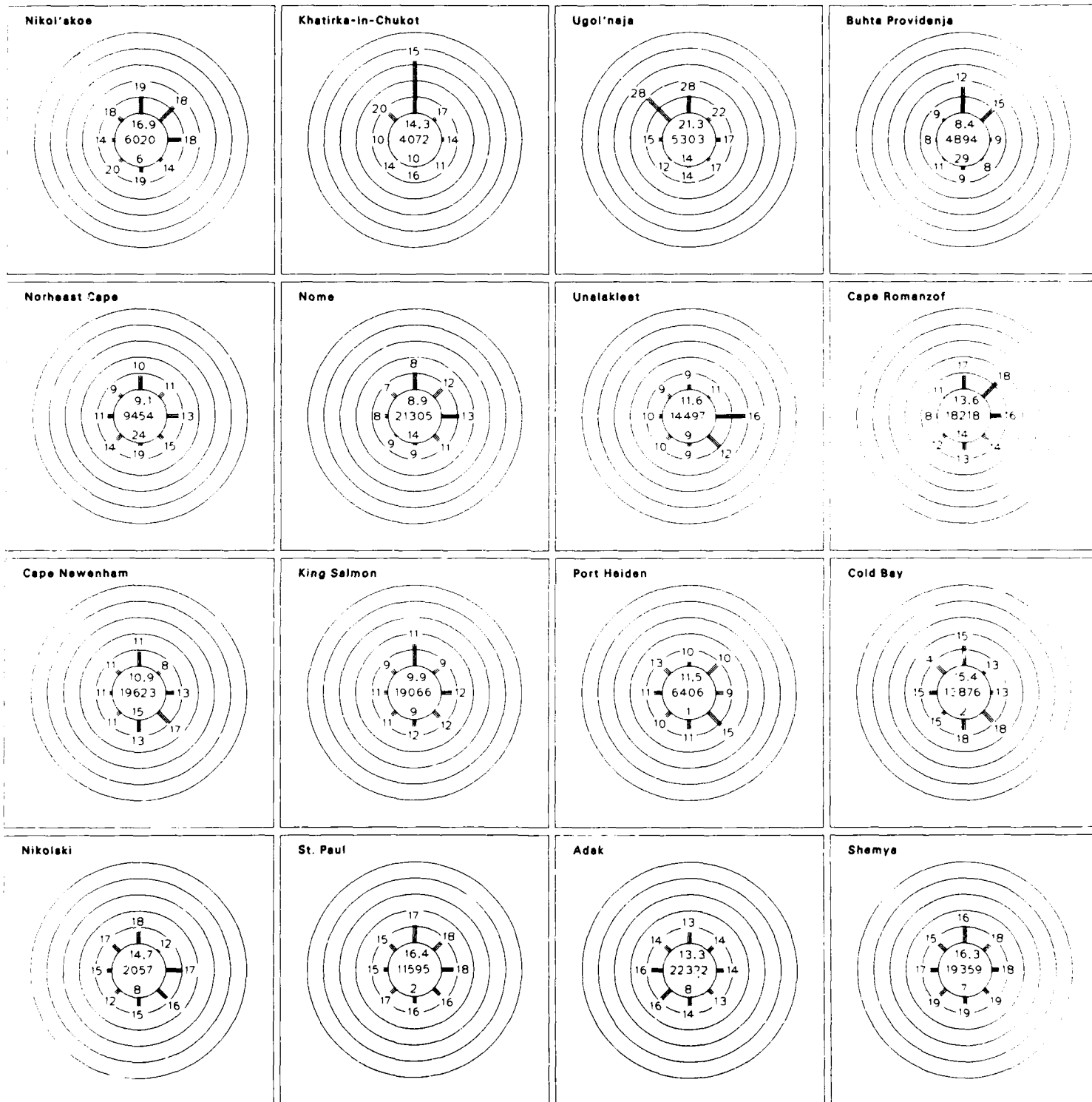
14 Wind Speed and Direction



14 Wind Speed and Direction

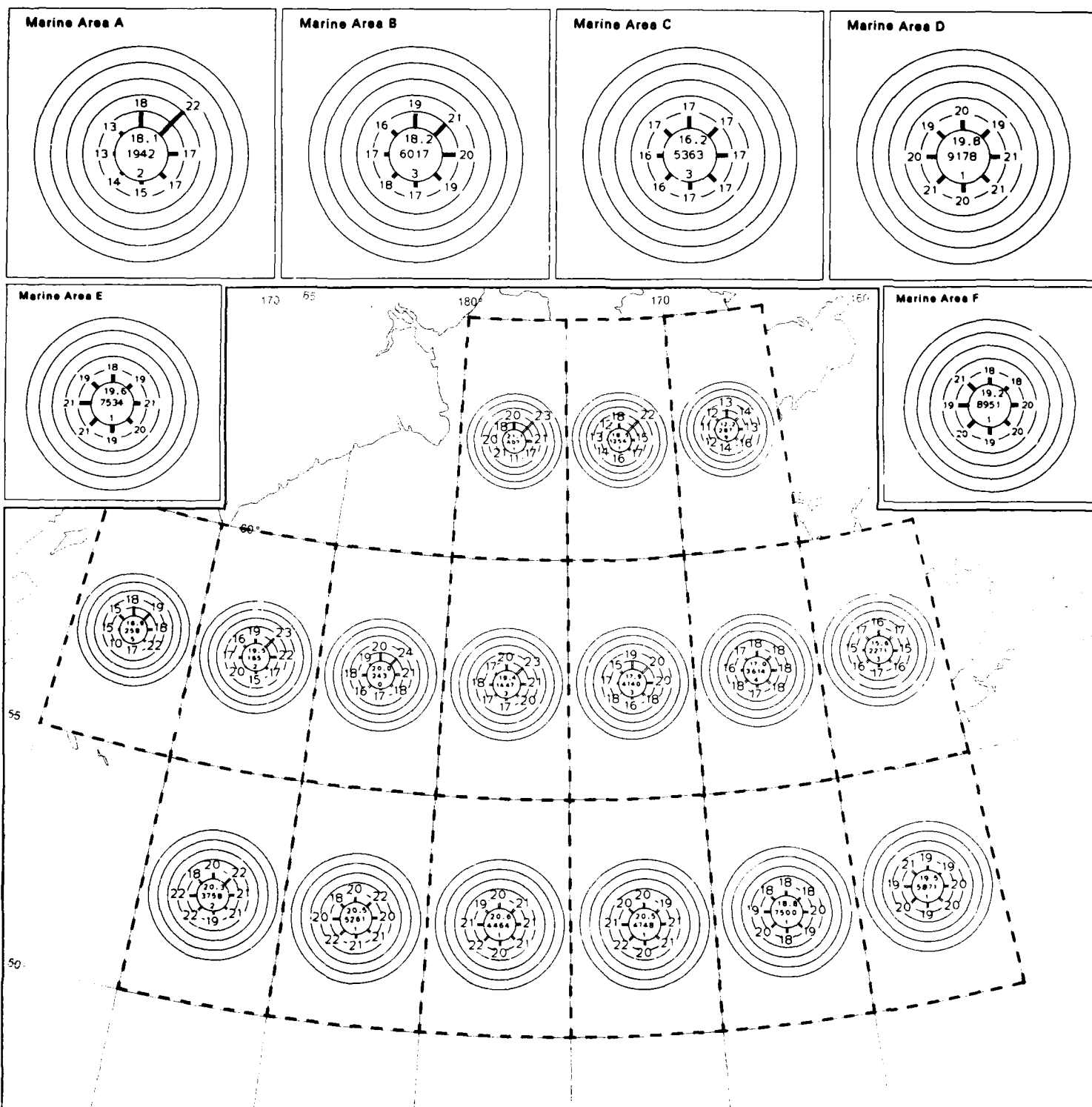
February





March

14 Wind Speed and Direction

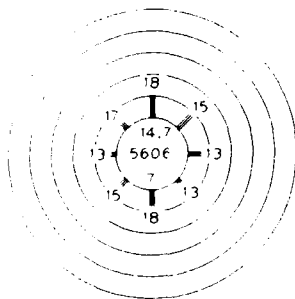


14 Wind Speed and Direction

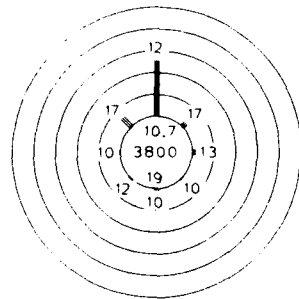
March

II-350

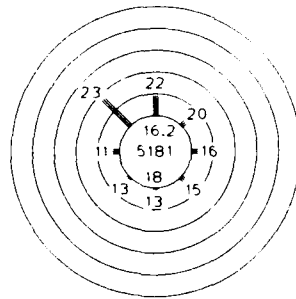
Nikol'skoe



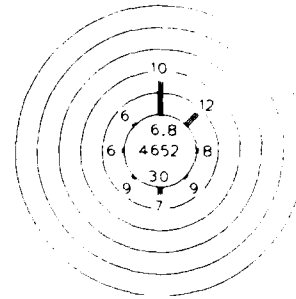
Khatirka-In-Chukot



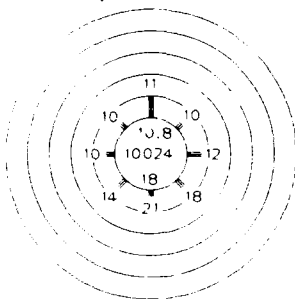
Ugol'naja



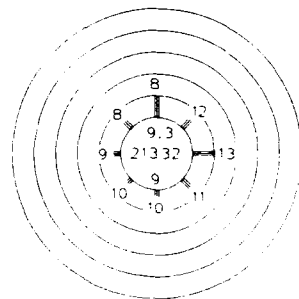
Buhta Providenja



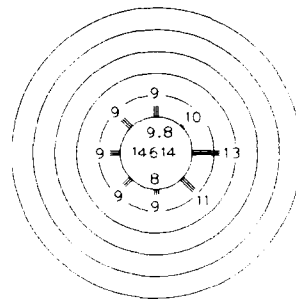
Northeast Cape



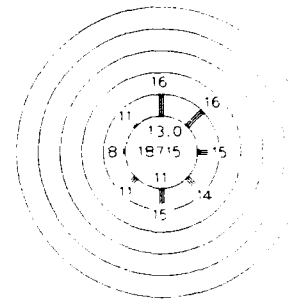
Nome



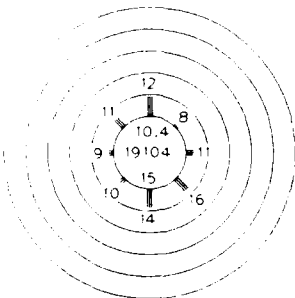
Unalakleet



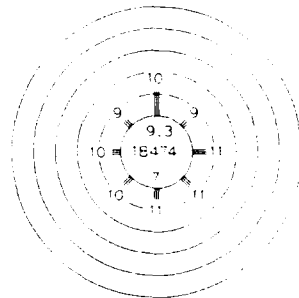
Cape Romanzof



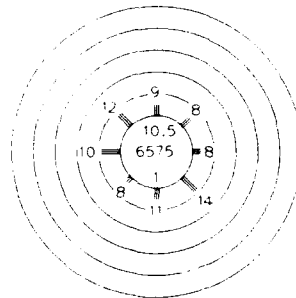
Cape Newenham



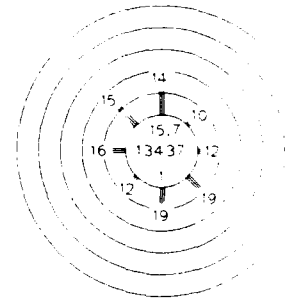
King Salmon



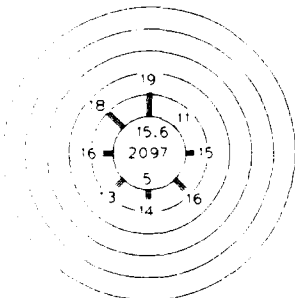
Port Heiden



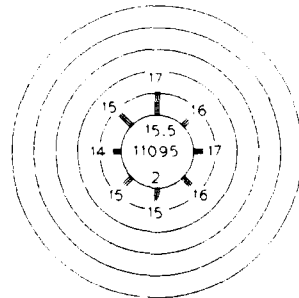
Cold Bay



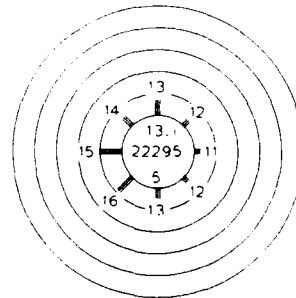
Nikolski



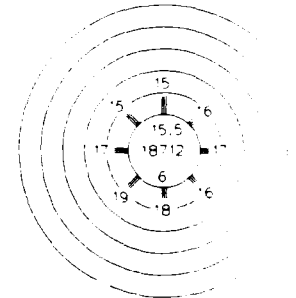
St. Paul



Adak

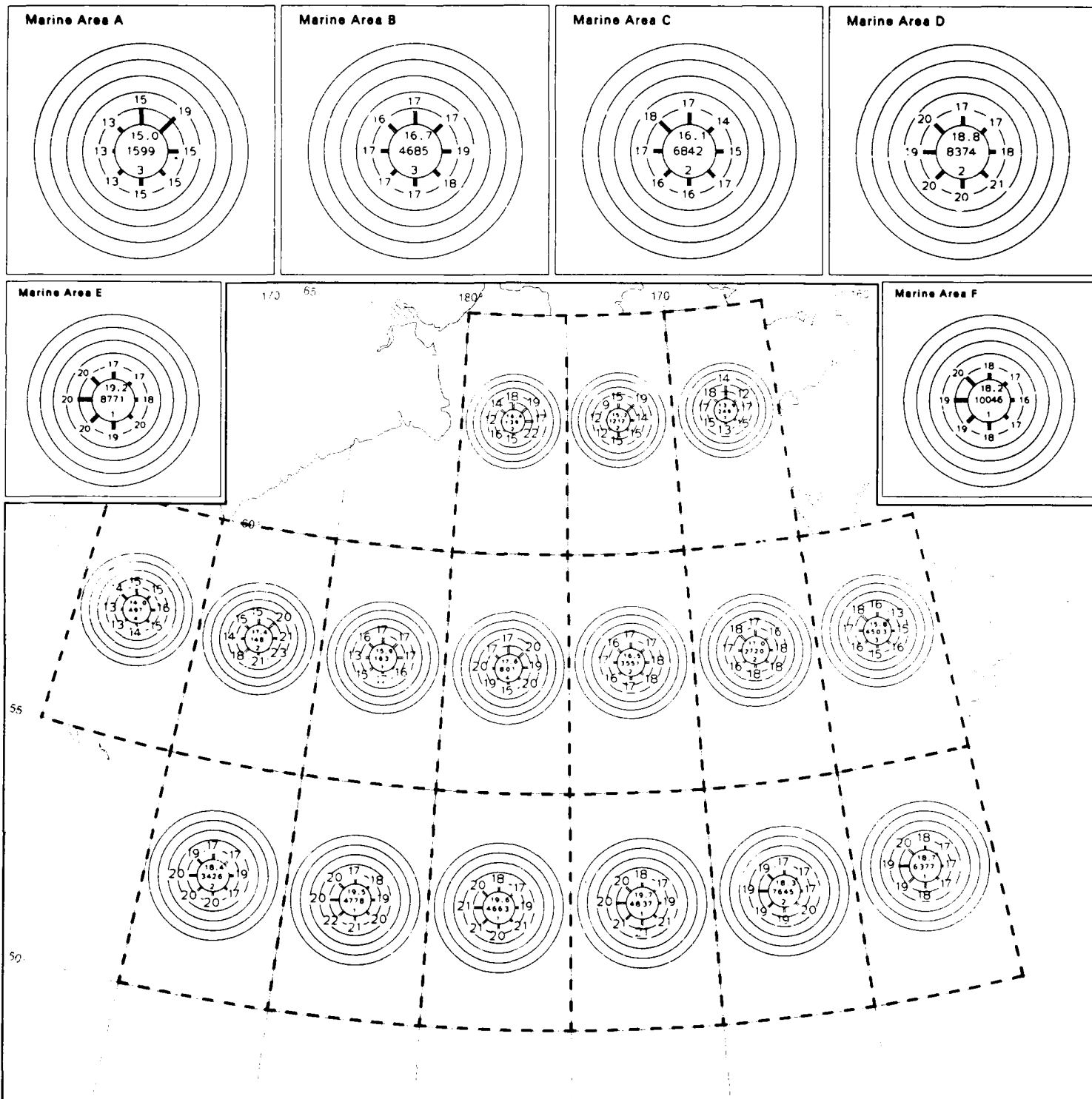


Shemya



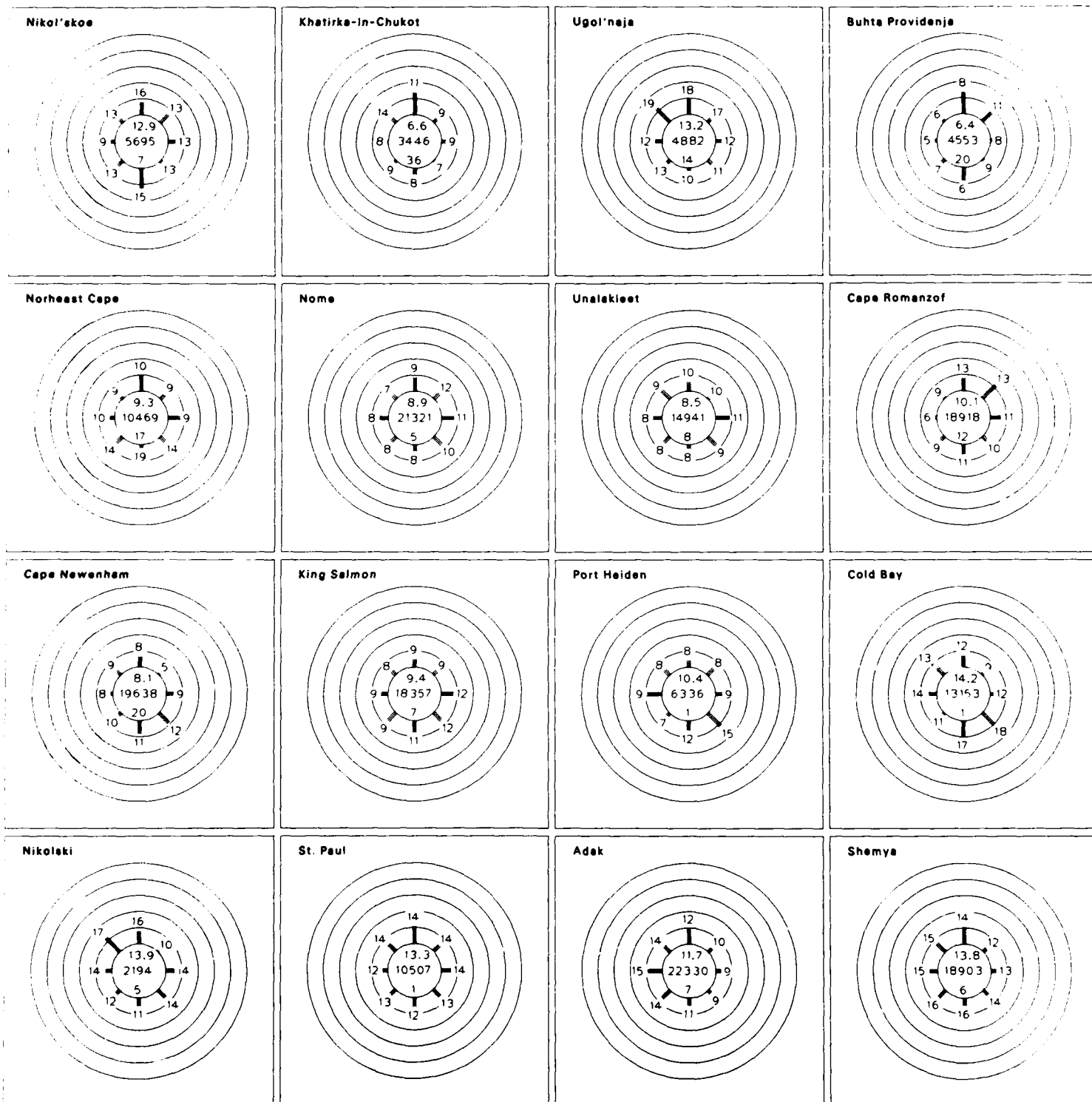
April

14 Wind Speed and Direction



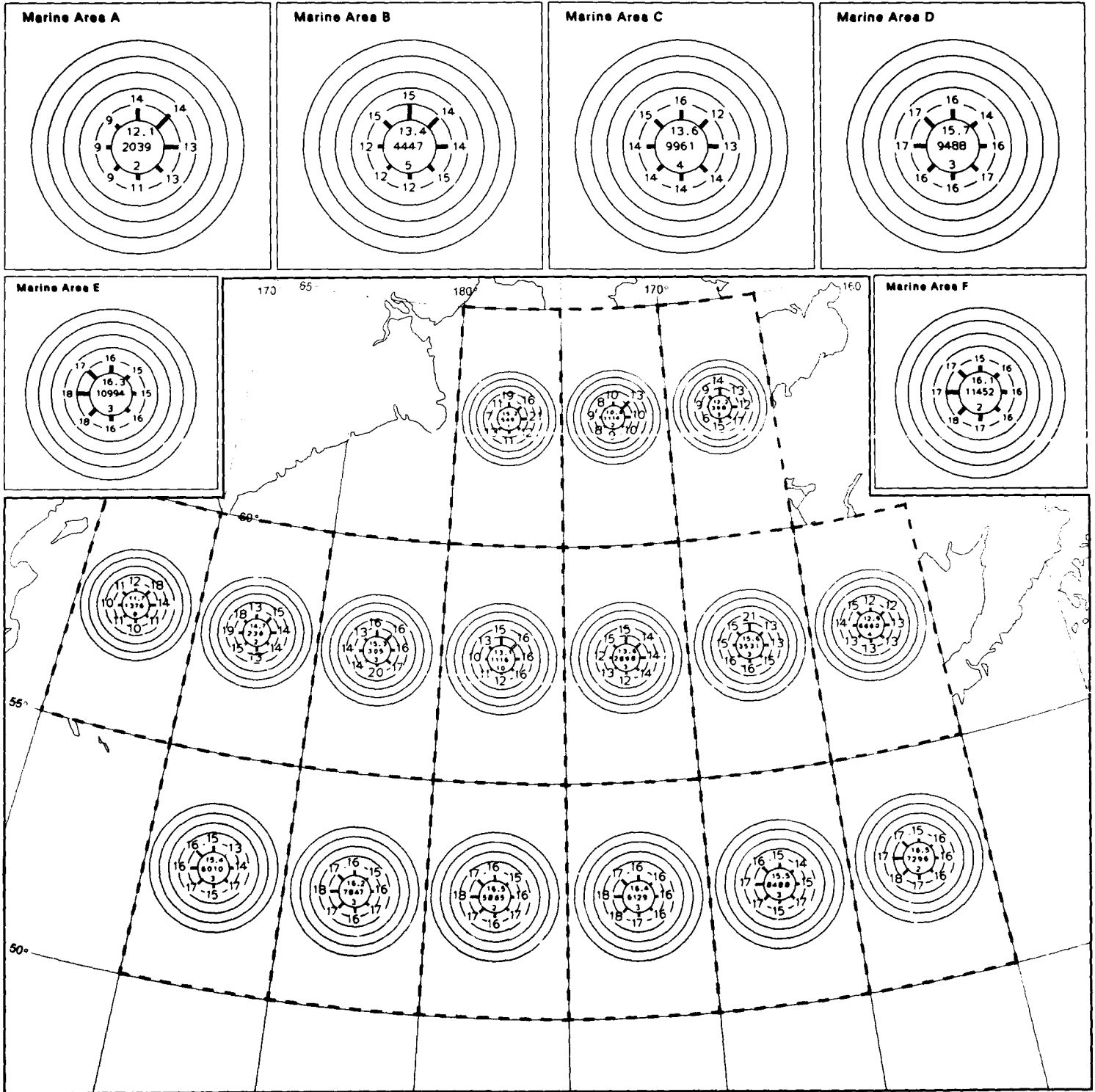
14 Wind Speed and Direction

April



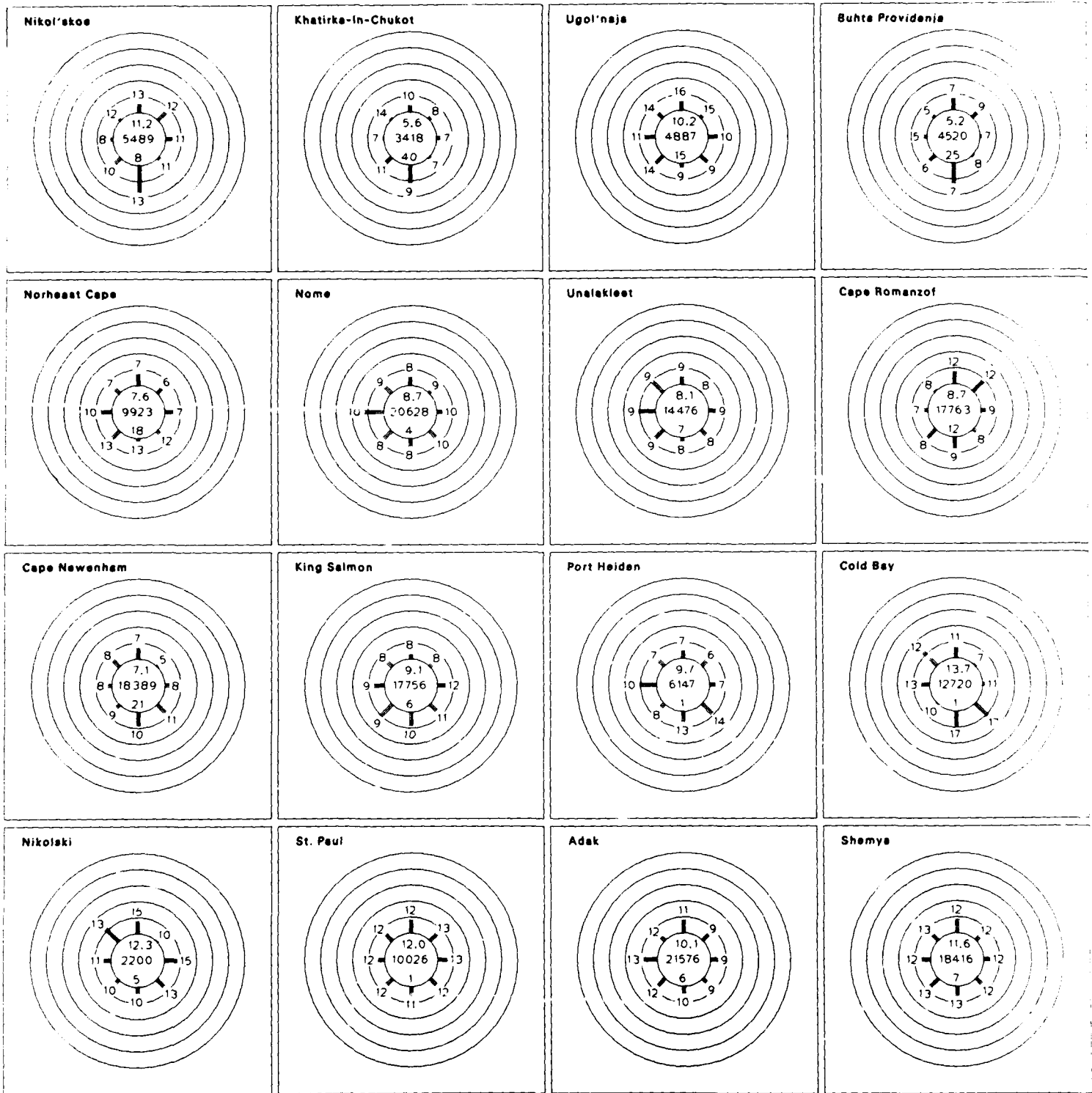
May

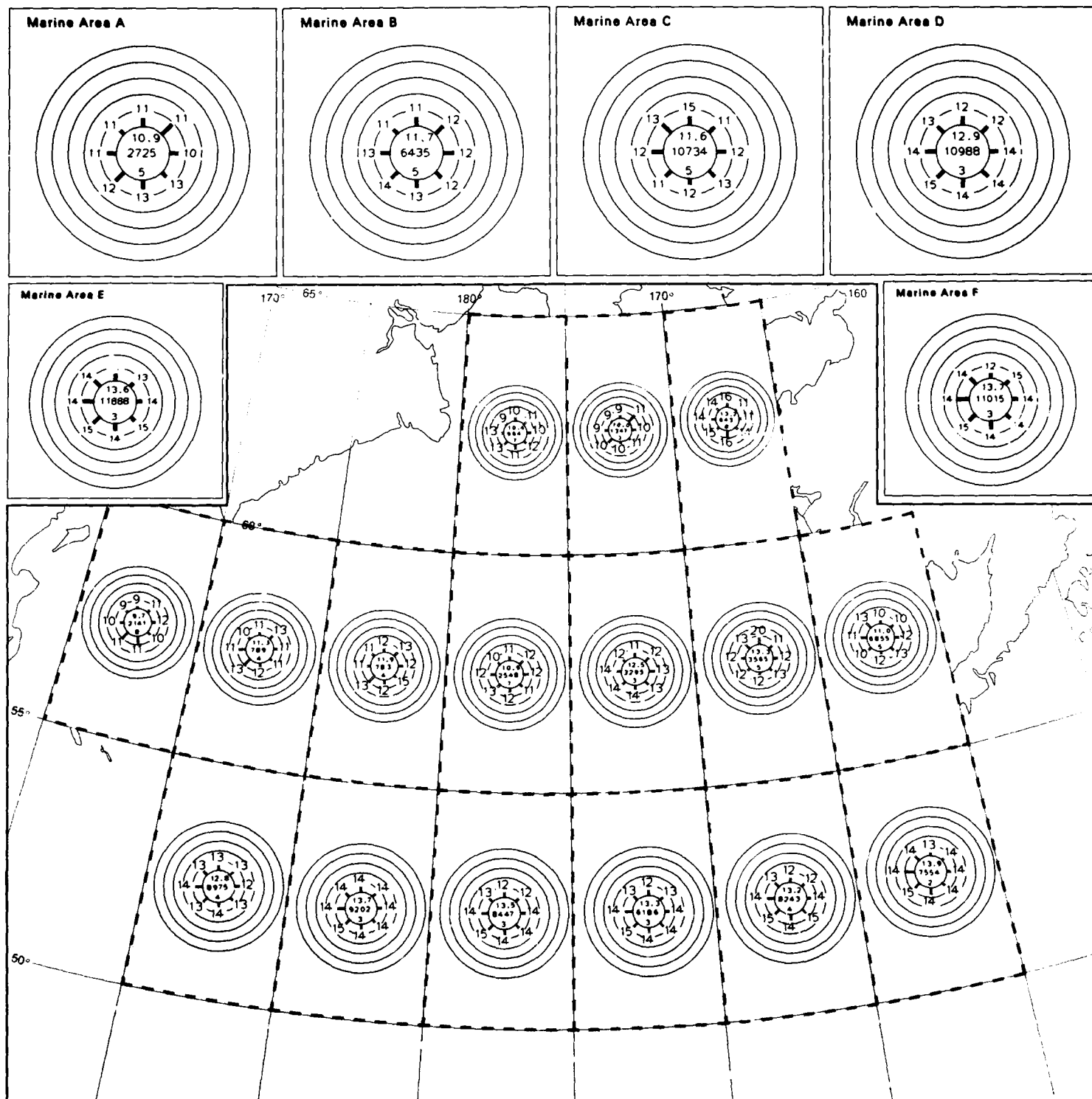
14 Wind Speed and Direction



14 Wind Speed and Direction

May



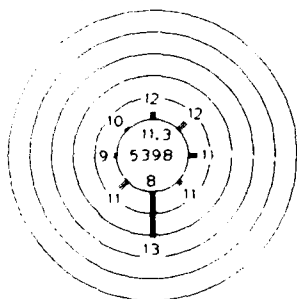


14 Wind Speed and Direction

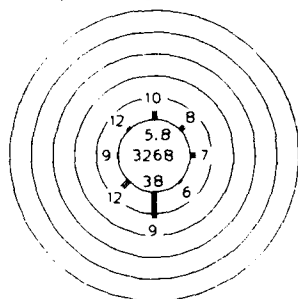
June



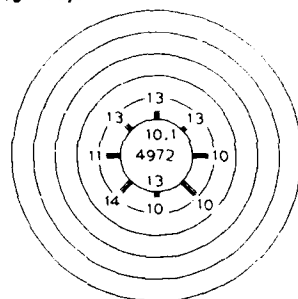
Nikol'skoe



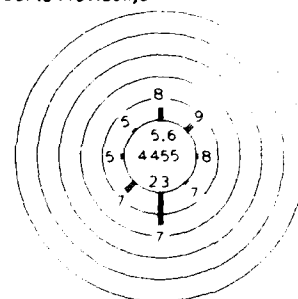
Khatirka-In-Chukot



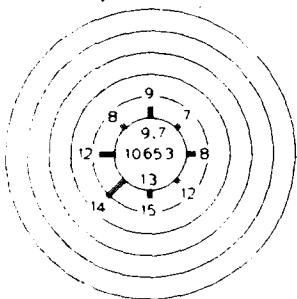
Ugol'naja



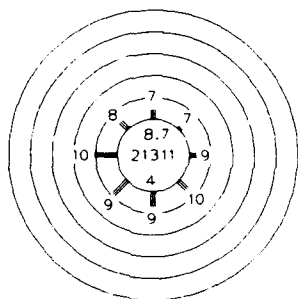
Buhta Providenja



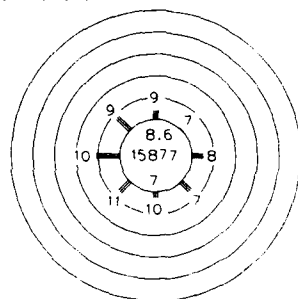
Northeast Cape



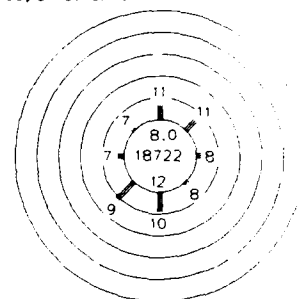
Nome



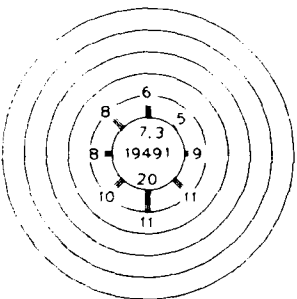
Unalakleet



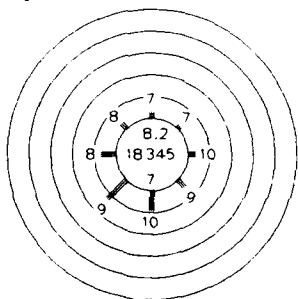
Cape Romanzof



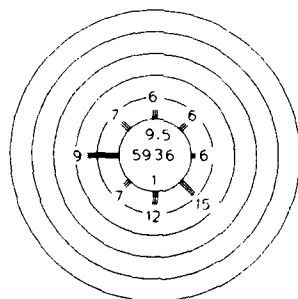
Cape Newenham



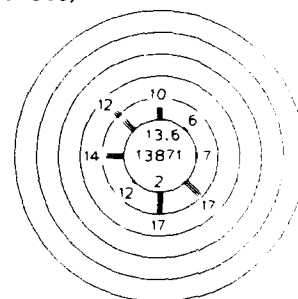
King Salmon



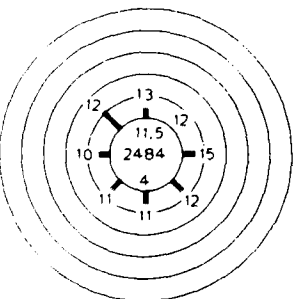
Port Heiden



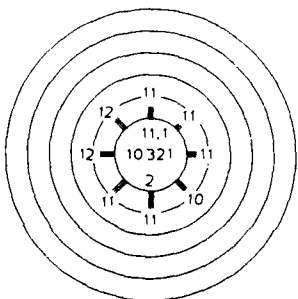
Cold Bay



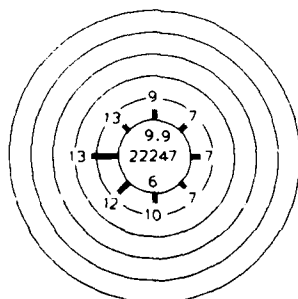
Nikolski



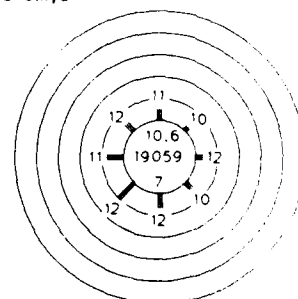
St. Paul

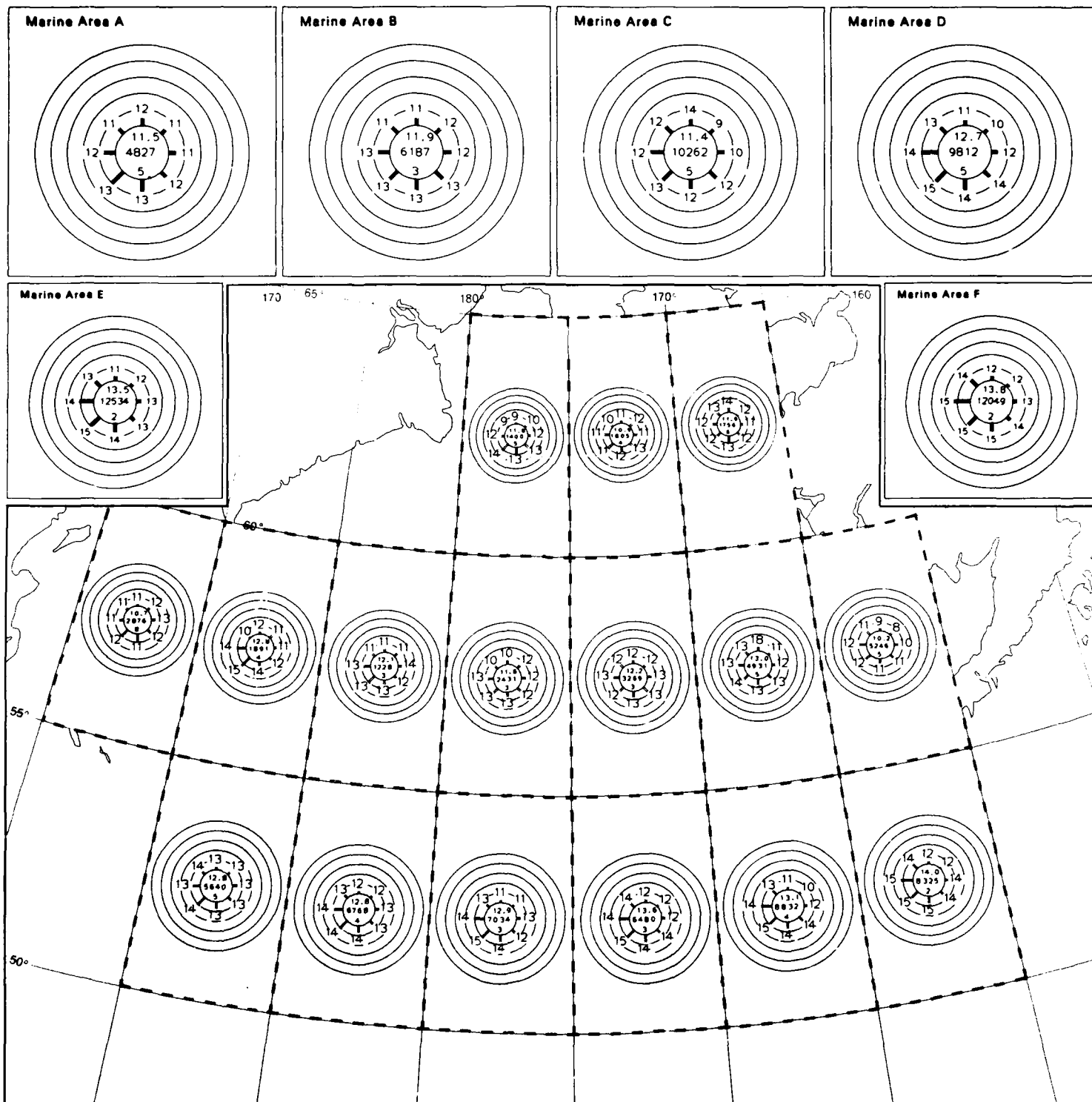


Adak



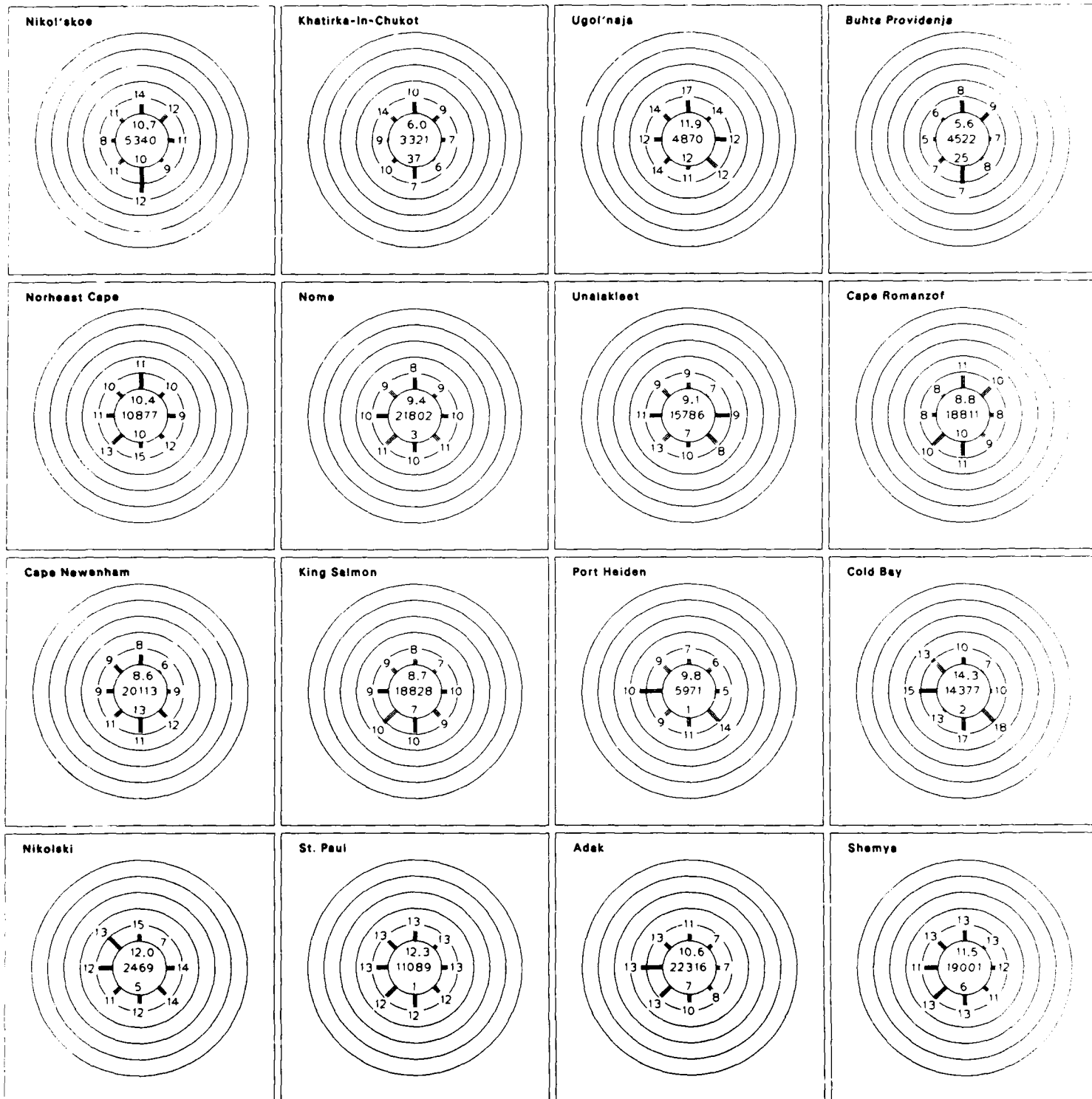
Shemya





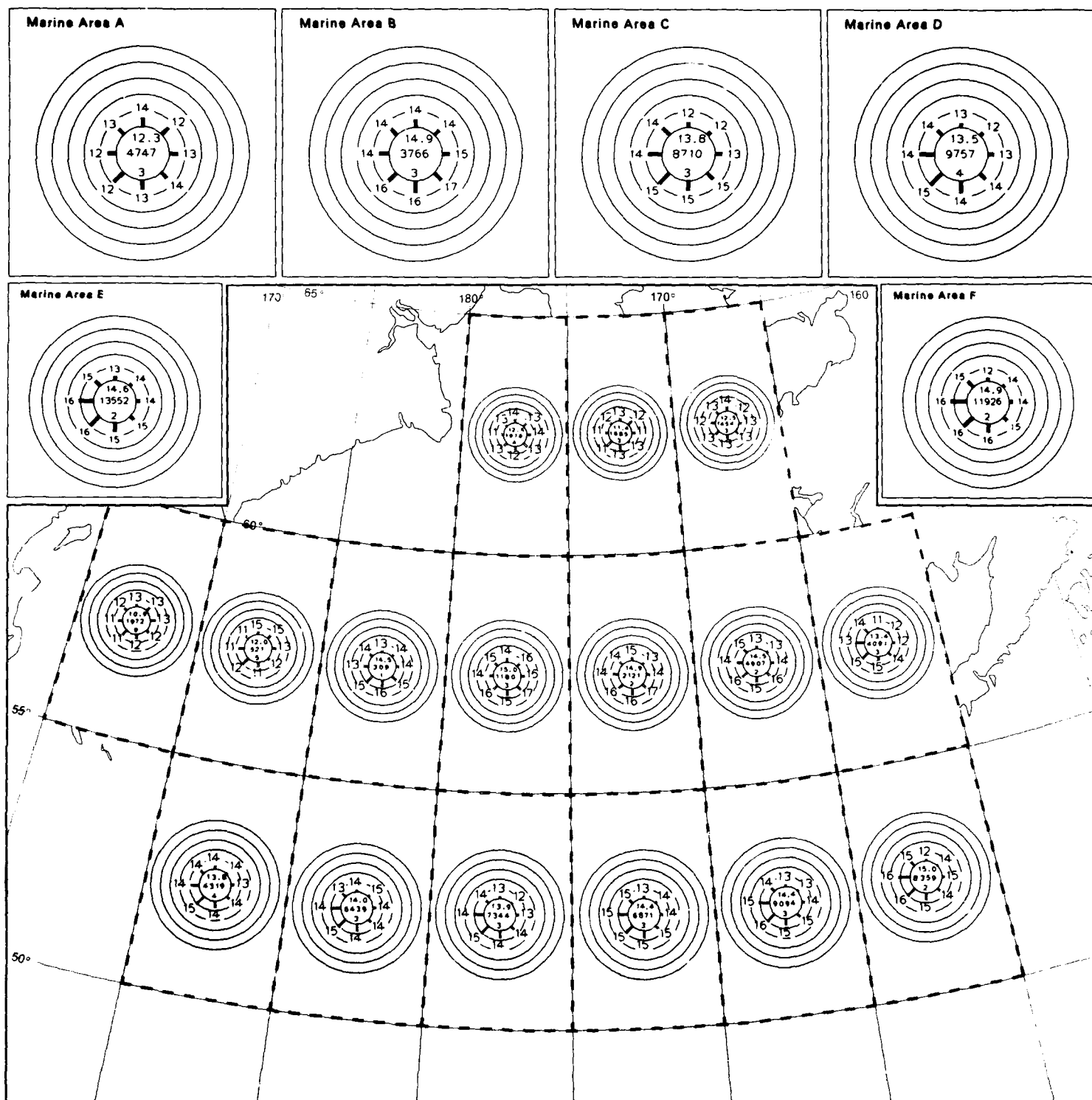
14 Wind Speed and Direction

July



August

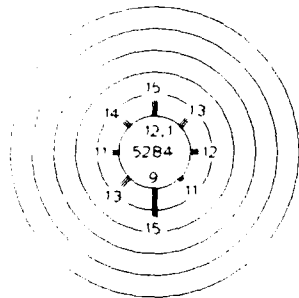
14 Wind Speed and Direction



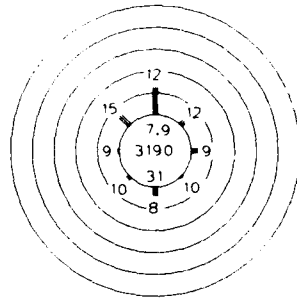
#### 14 Wind Speed and Direction

## August

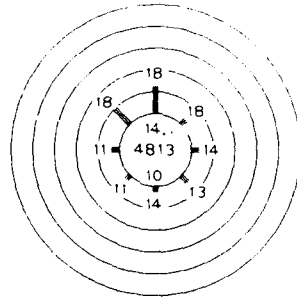
Nikol'skoe



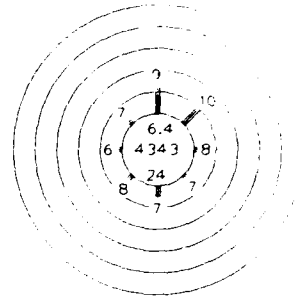
Khatirka-In-Chukot



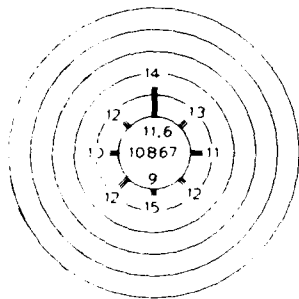
Ugol'neja



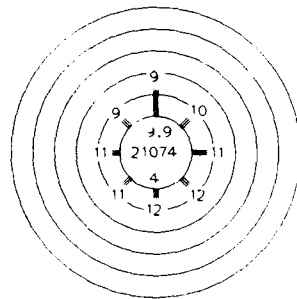
Buhta Providenja



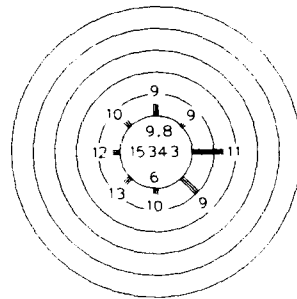
Northeast Cape



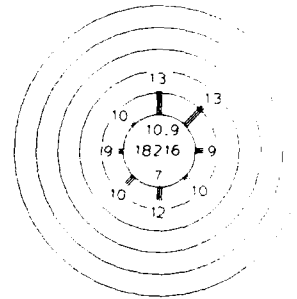
Nome



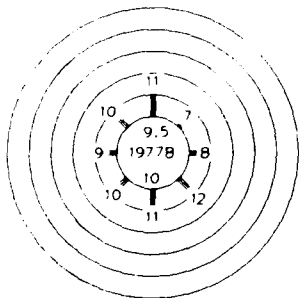
Unalakleet



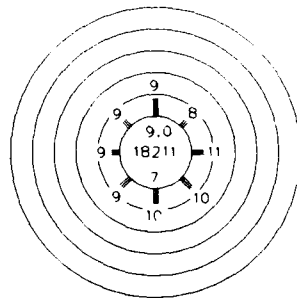
Cape Romanzof



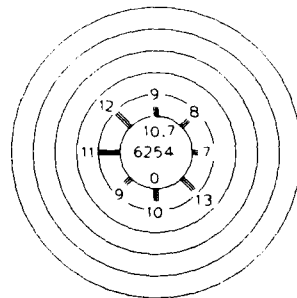
Cape Newenham



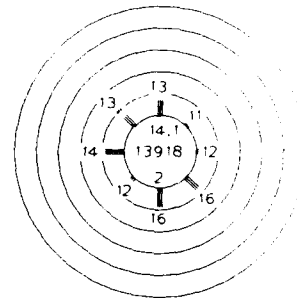
King Salmon



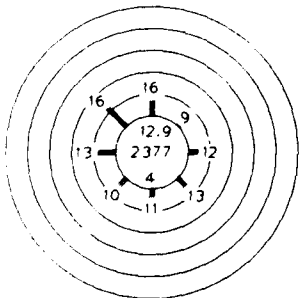
Port Heiden



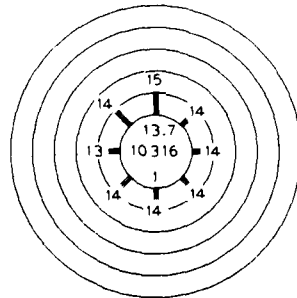
Cold Bay



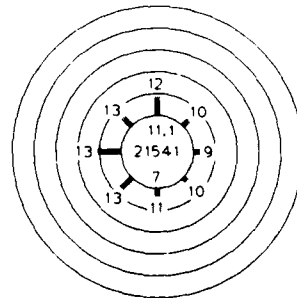
Nikolaki



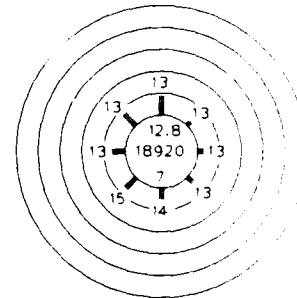
St. Paul

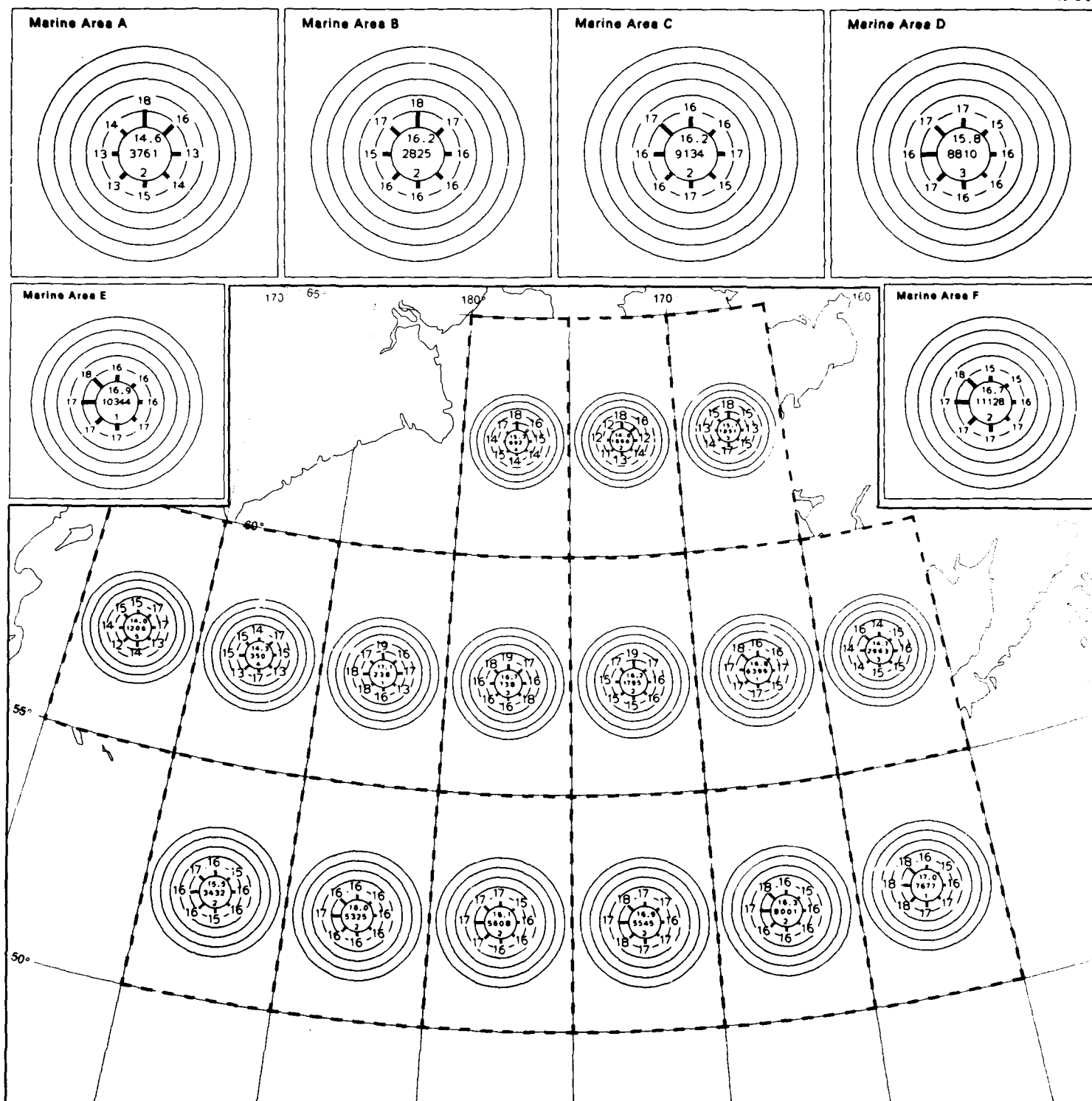


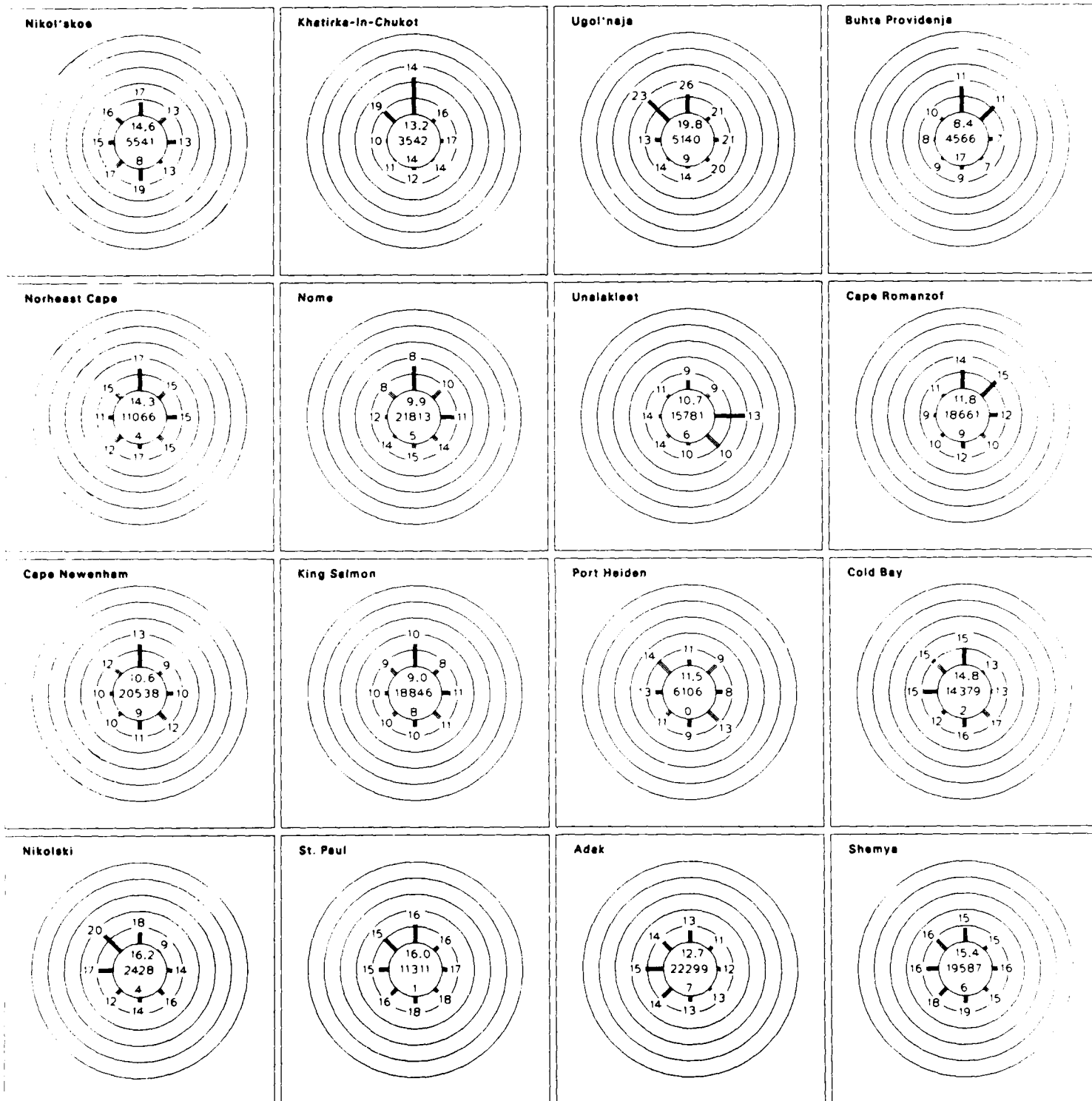
Adak



Shemya

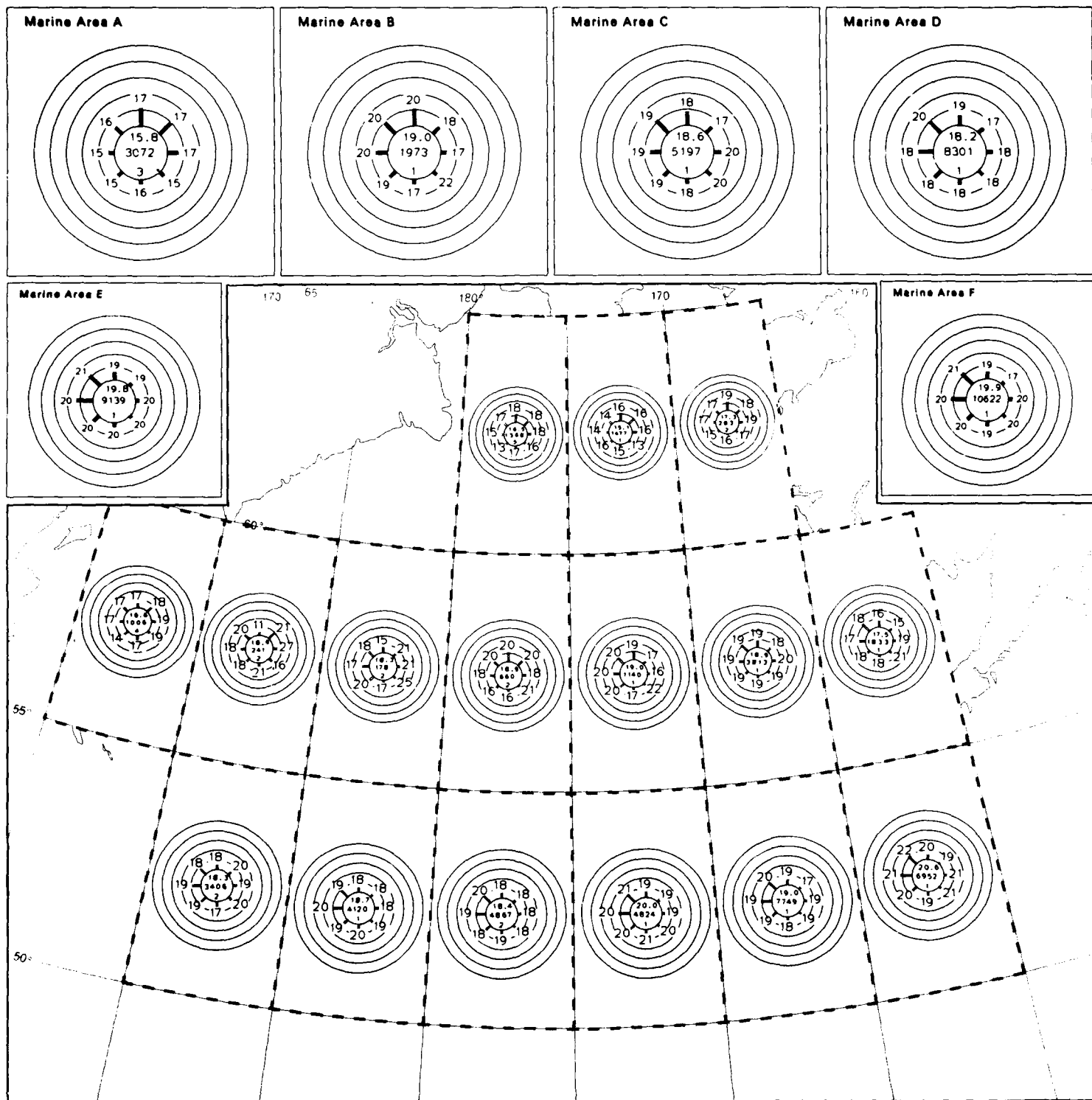






October

14 Wind Speed and Direction

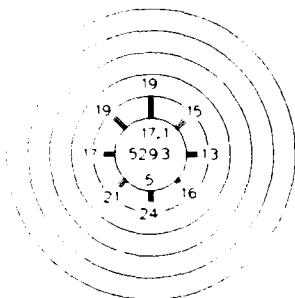


14 Wind Speed and Direction

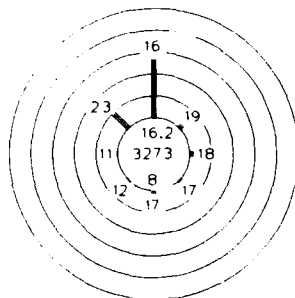
October



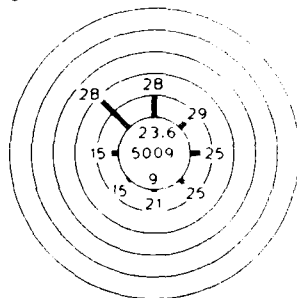
Nikol'skoe



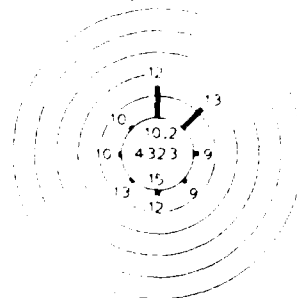
Khatirka-In-Chukot



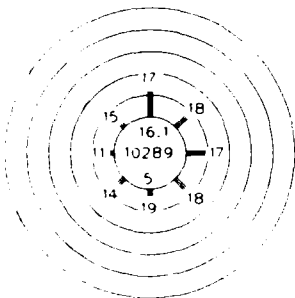
Ugol'neja



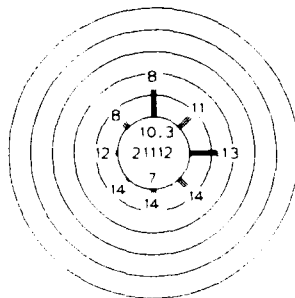
Buhta Providenja



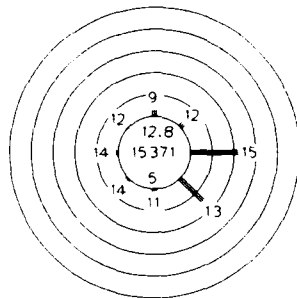
Northeast Cape



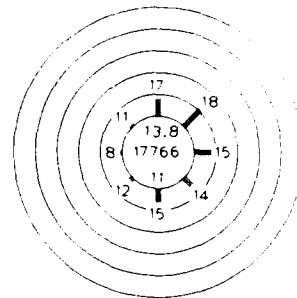
Nome



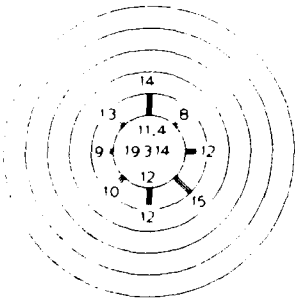
Unalakleet



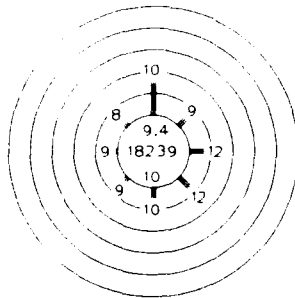
Cape Romanzof



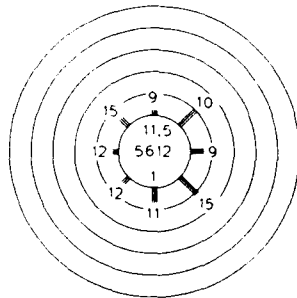
Cape Newenham



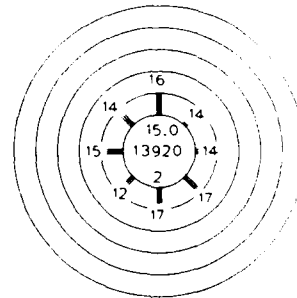
King Salmon



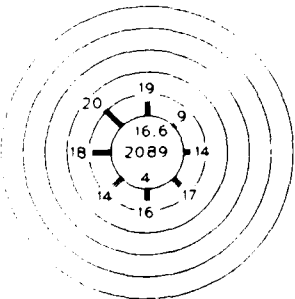
Port Heiden



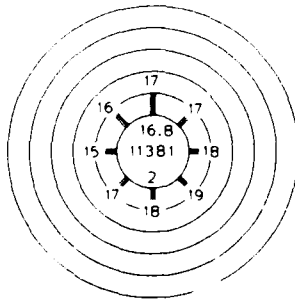
Cold Bay



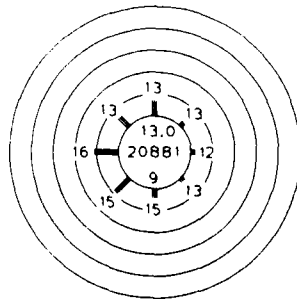
Nikoleki



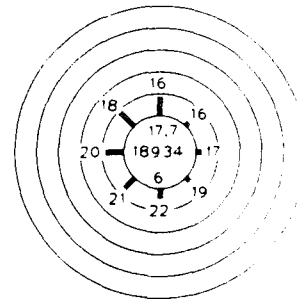
St. Paul

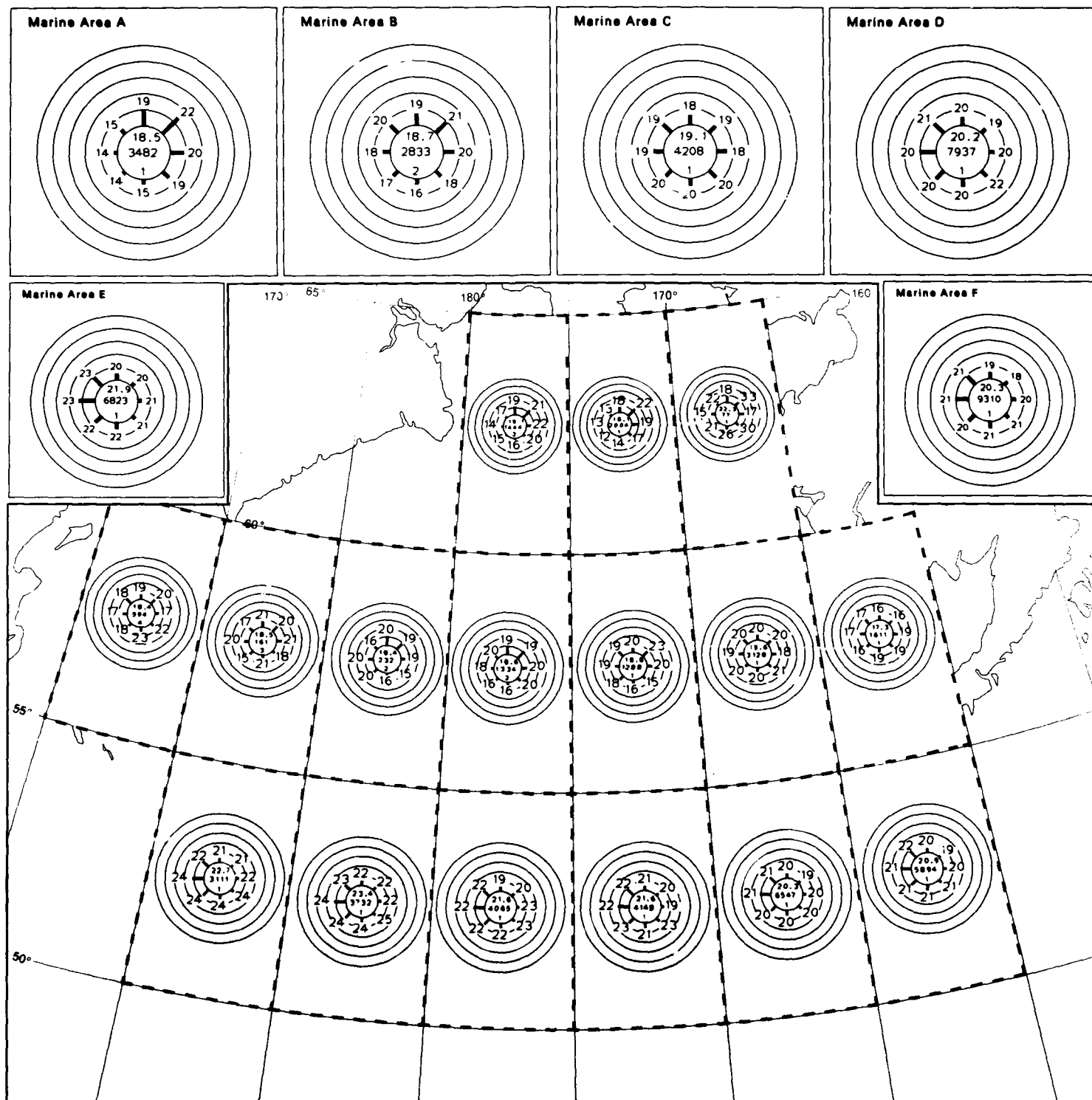


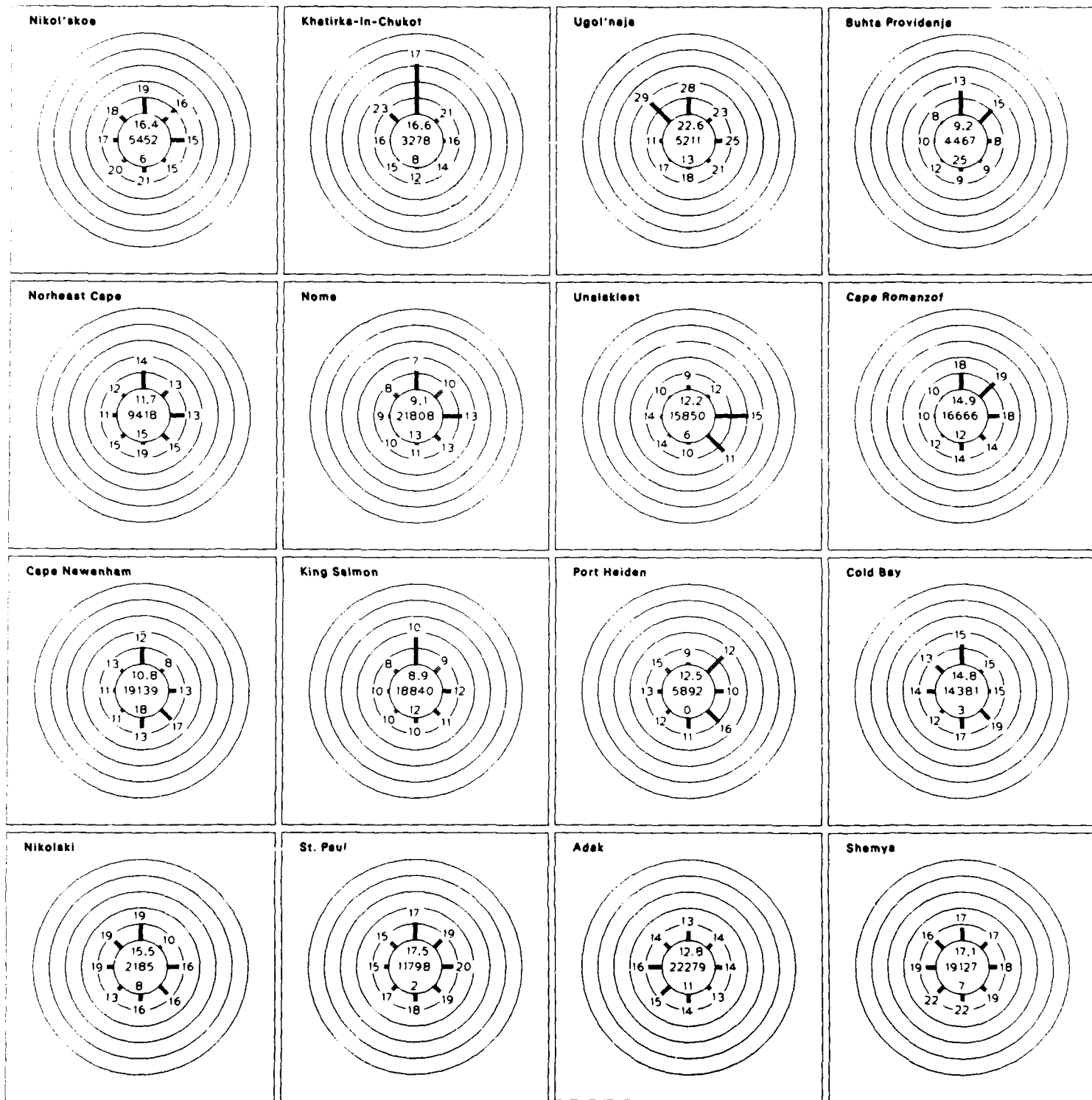
Adek



Shemya

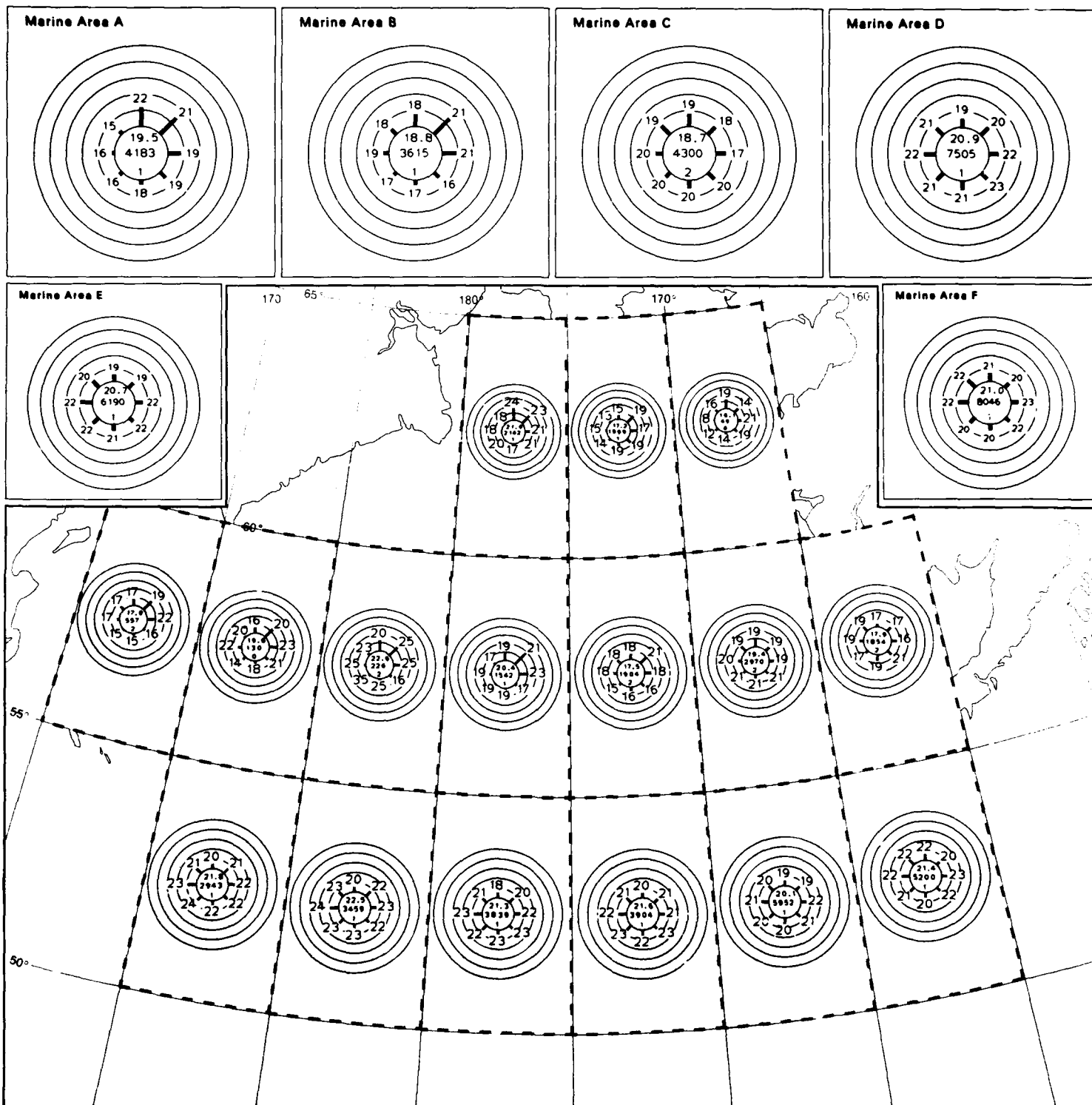






December

14 Wind Speed and Direction



14 Wind Speed and Direction

December

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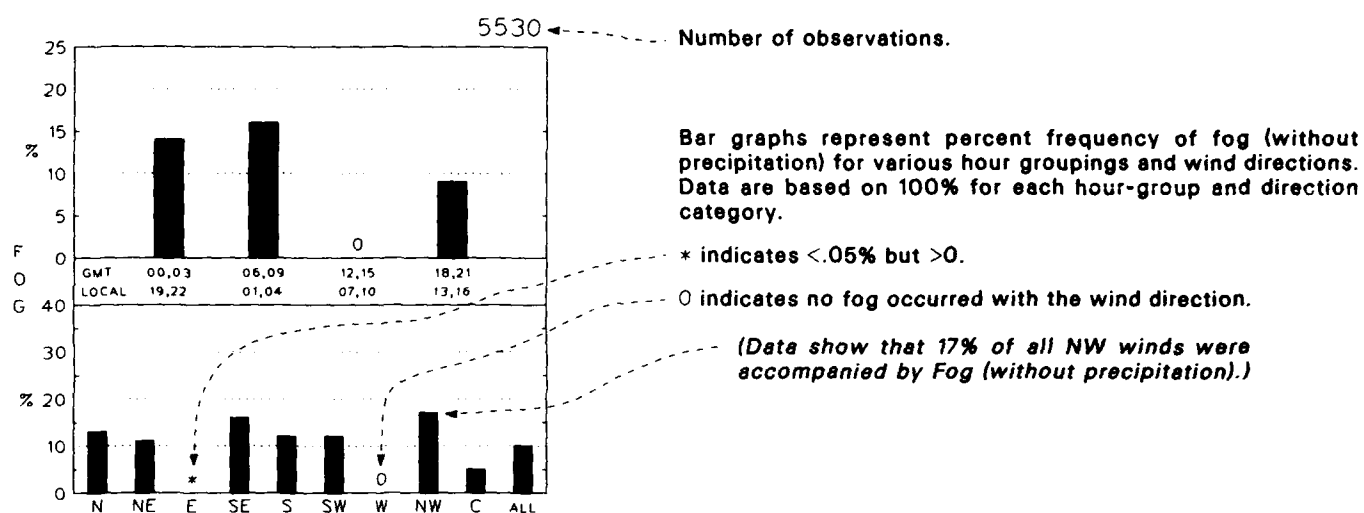
## Map 15. Fog and poor visibility

BLACK LINE – Percent frequency of visibility  $<1/2$  nautical mile.

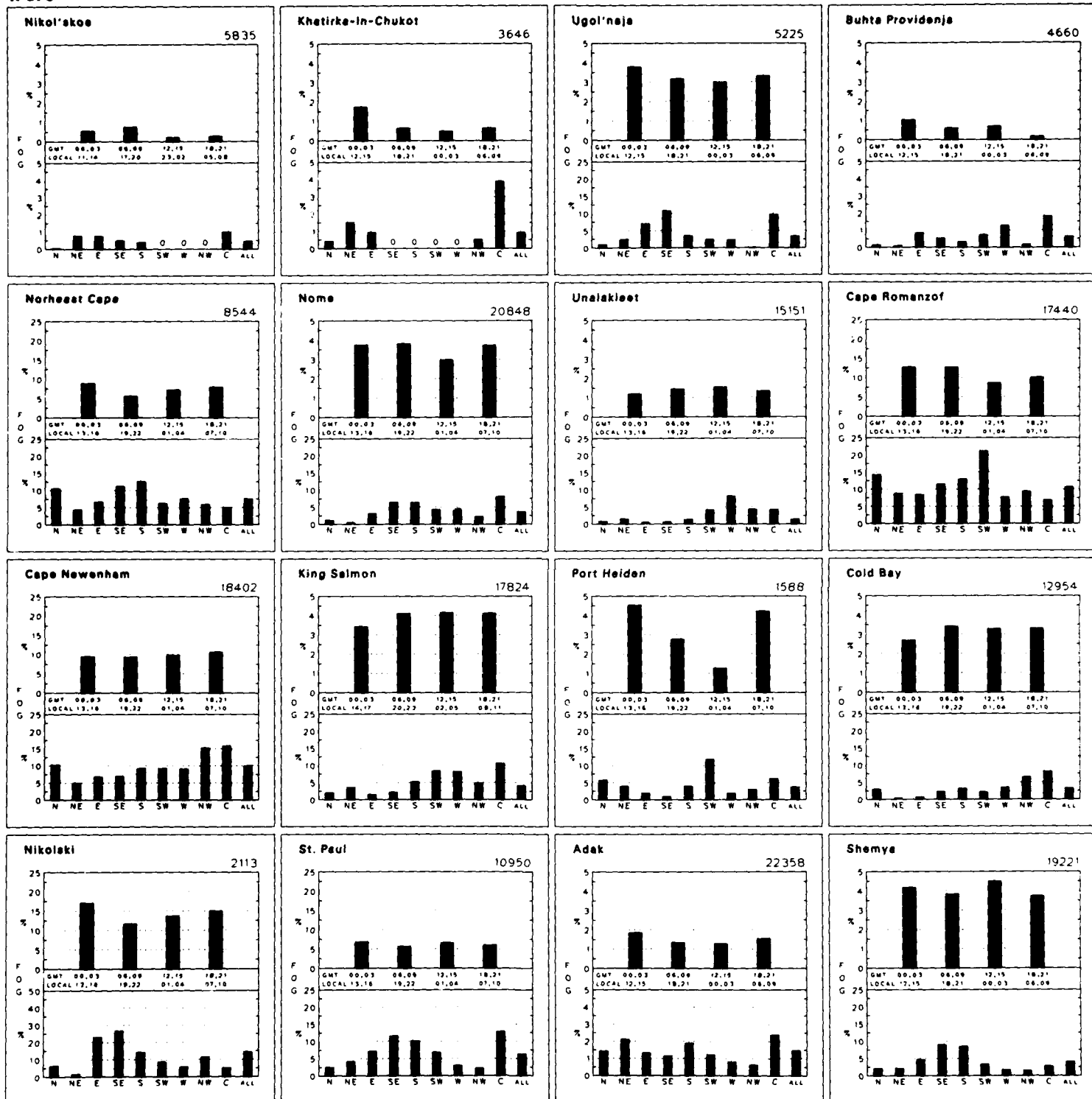
BLUE LINE – Percent frequency of fog occurring without precipitation.

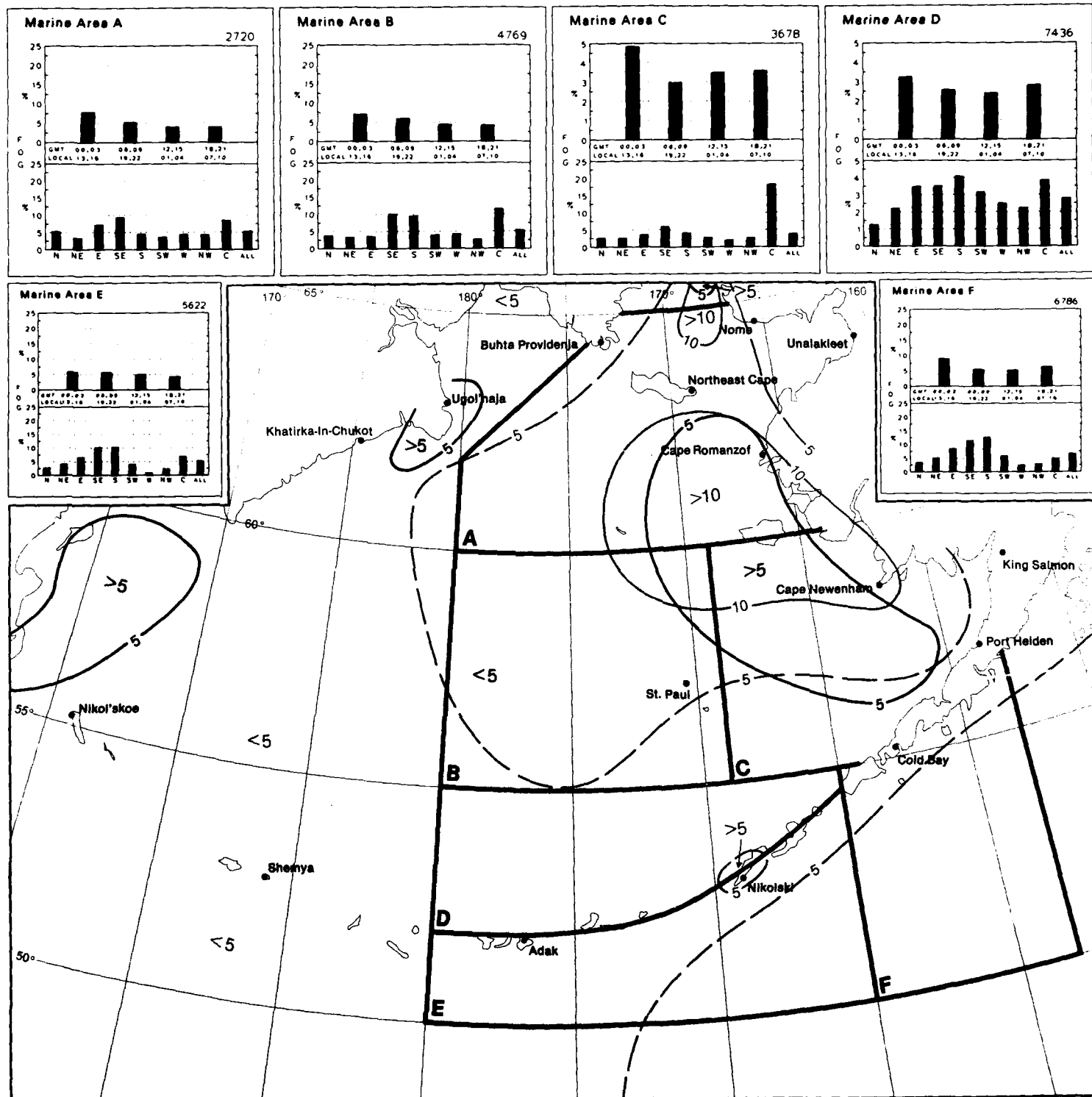
Albers Equal-Area Conic Projection

### Graphs: Fog/time and fog/wind direction



Fog is composed of minute droplets suspended in the atmosphere near the earth's surface which have no visible downward motion (fog is a stratus cloud on the surface). Fog is distinguished from haze (suspended dust or salt particles, yellowish or blue in color) by its dampness and grey color; also its restriction of visibility (less than one-half nautical mile) if deeper than 33 feet, a height considered average for the observer above the sea surface while standing on the bridge of a ship (WMO code). Fog rarely exists when the difference between the air and dew point temperatures is more than  $2.5^{\circ}\text{C}$ . Present weather coding of fog in the marine observation is restricted to reporting of fog only when no precipitation is occurring at the time of observation (see present weather code table in the text of Set 2). Therefore, determination of occurrences of either fog with precipitation or all fog is not possible. The isopleth presentation (BLACK LINE) of visibility less than one-half nautical mile, includes restrictions to visibility due to any weather phenomena; i.e., fog, precipitation, dust, smoke, etc.



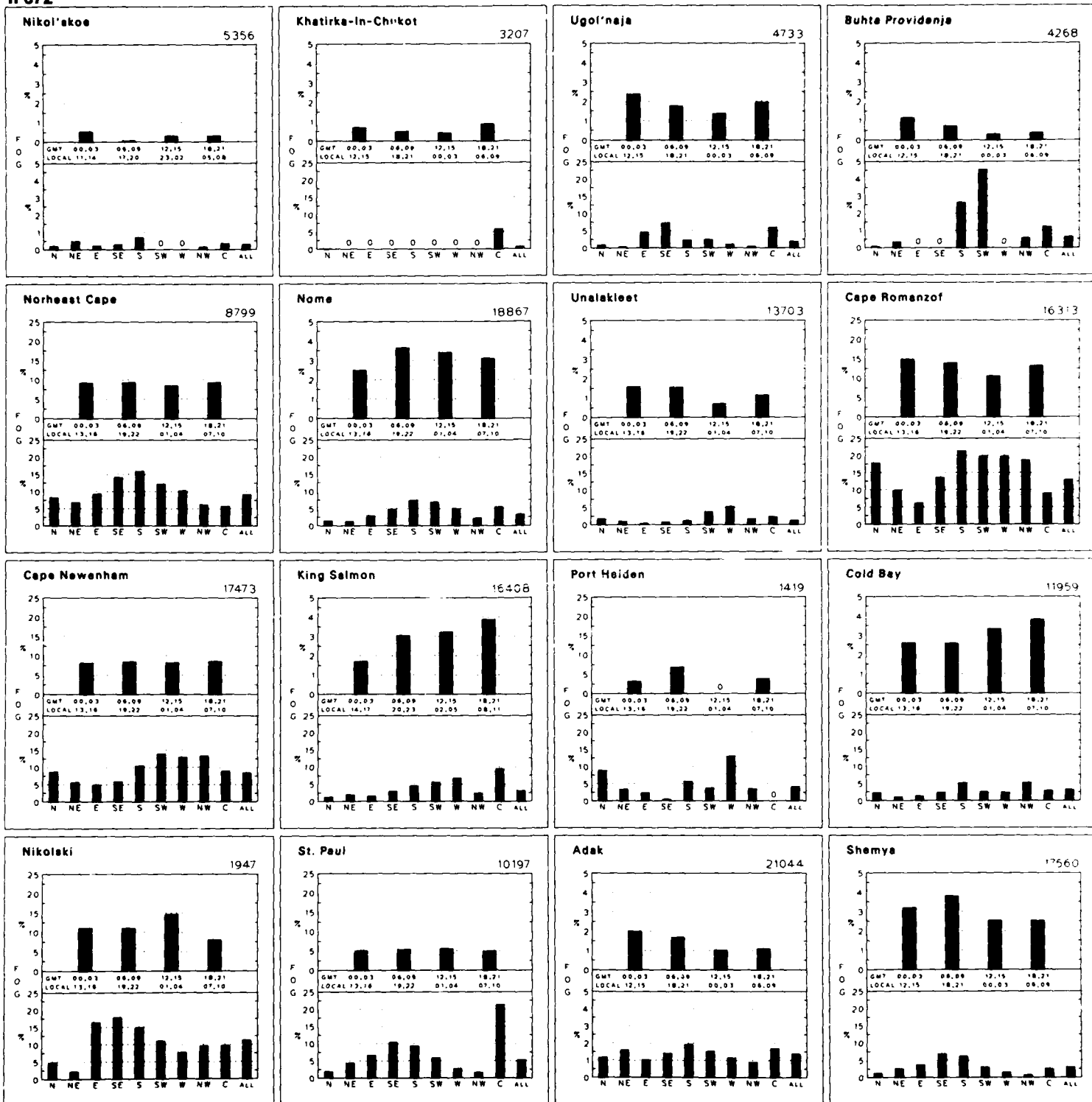


15 Fog and Poor Visibility

January

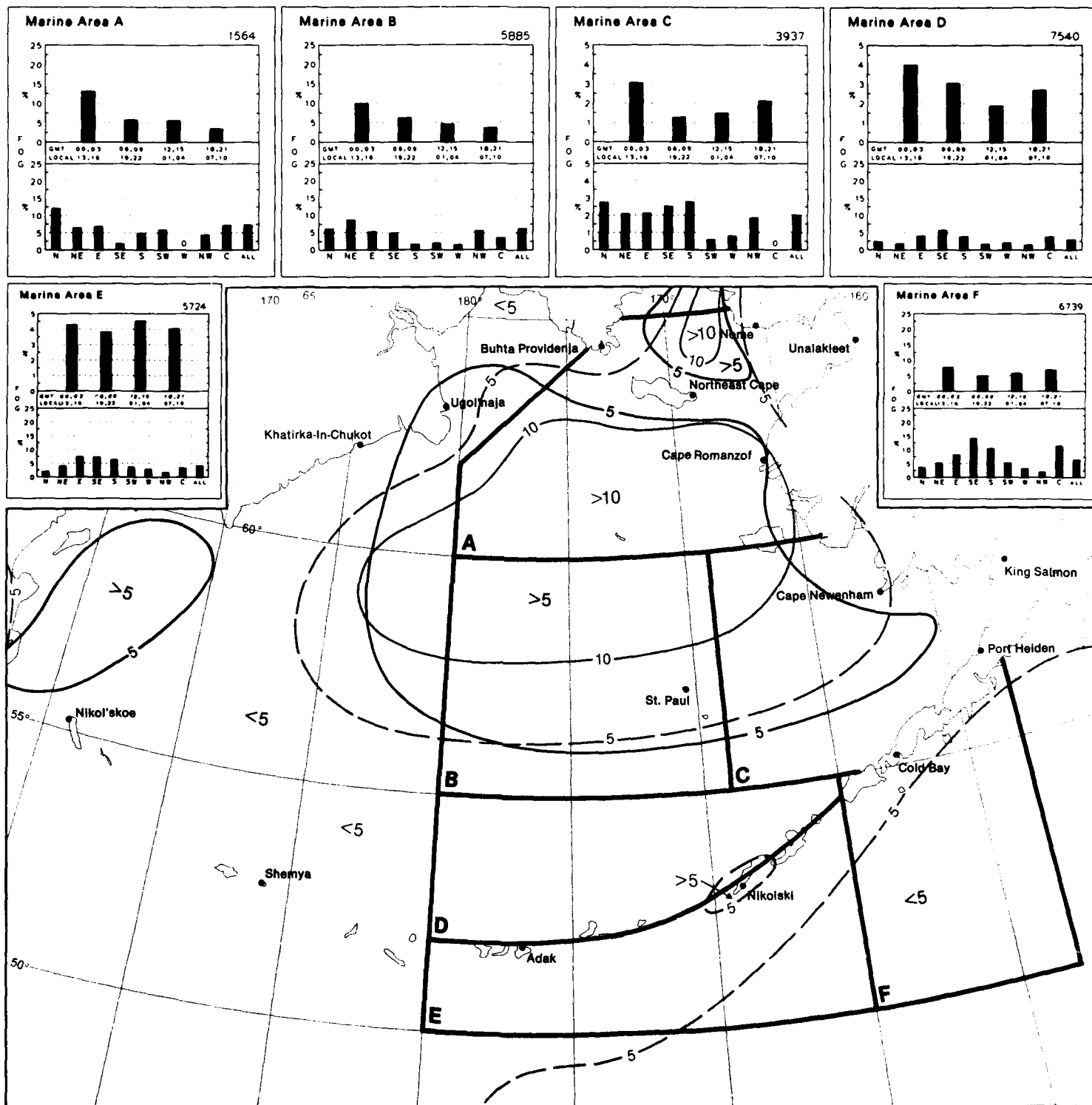


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February

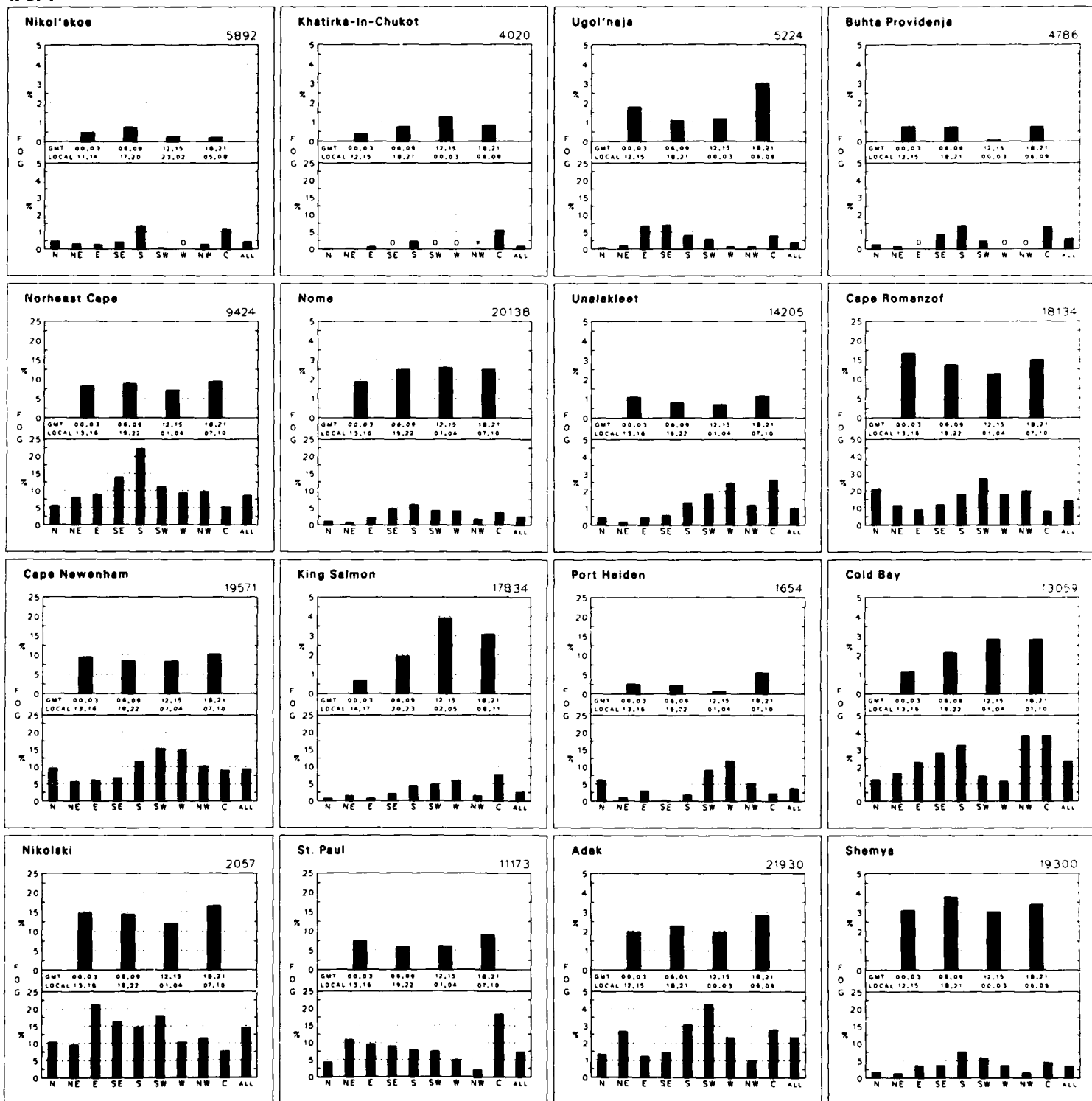
15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

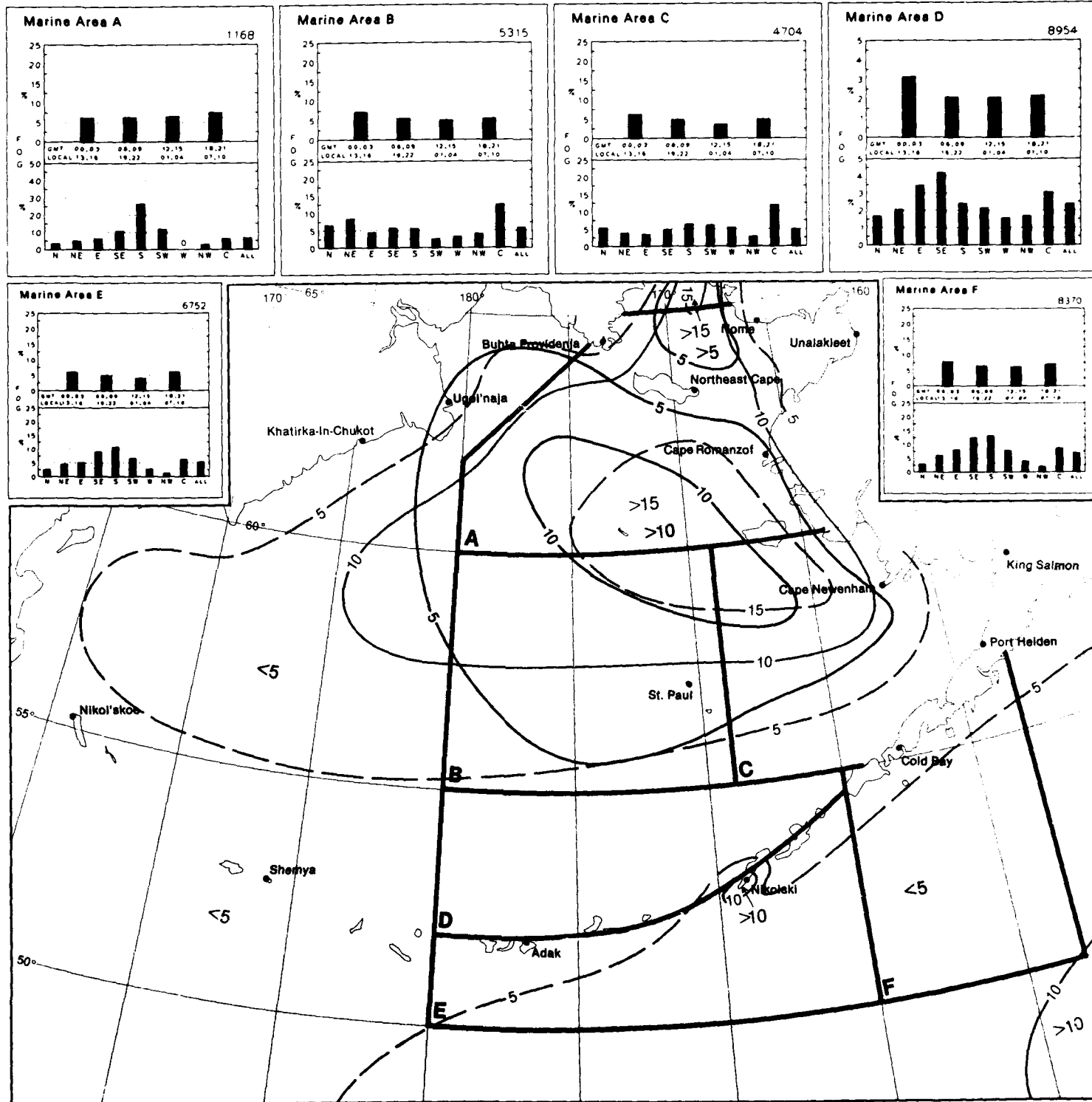
February

11-374



March

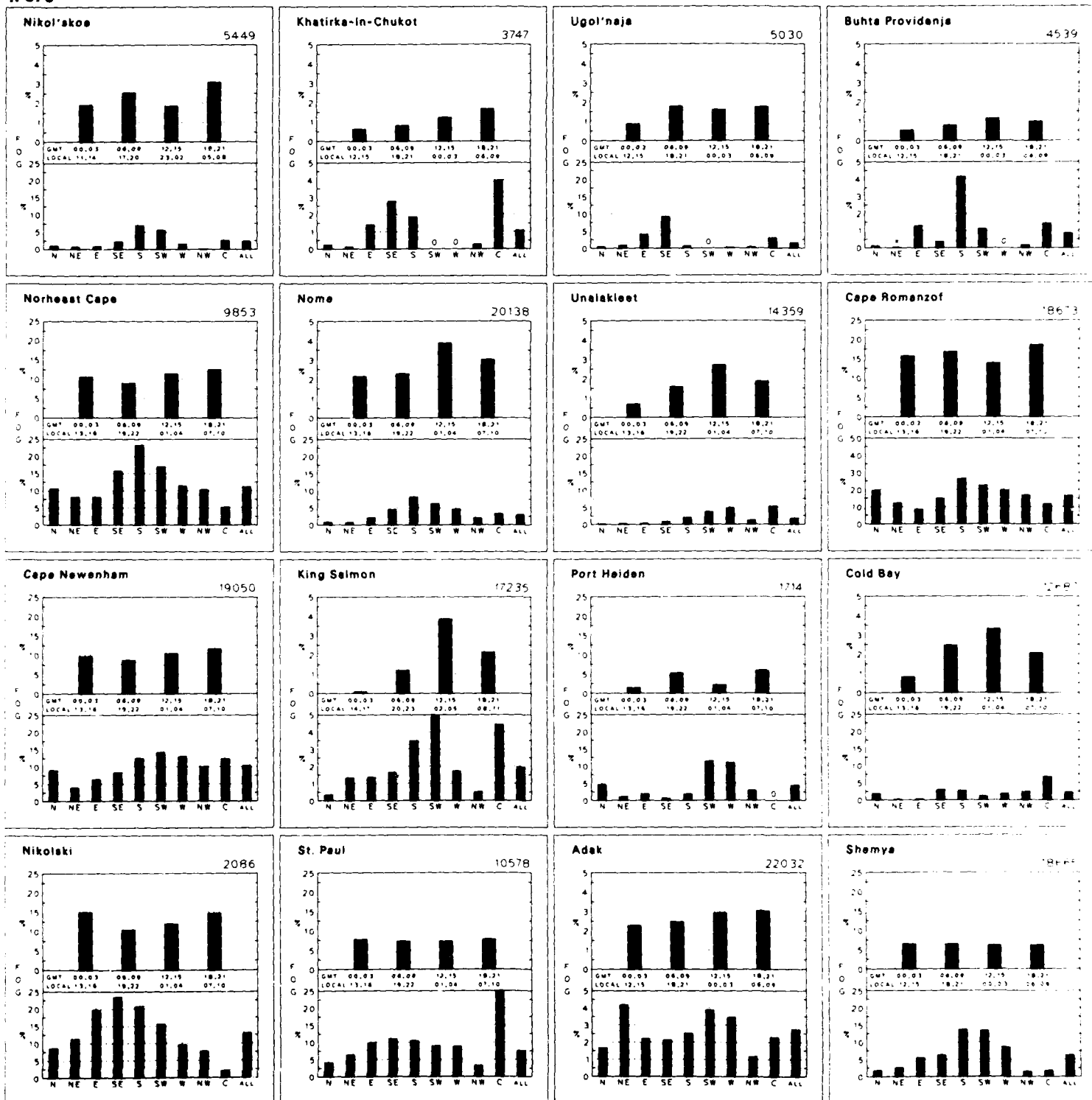
15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

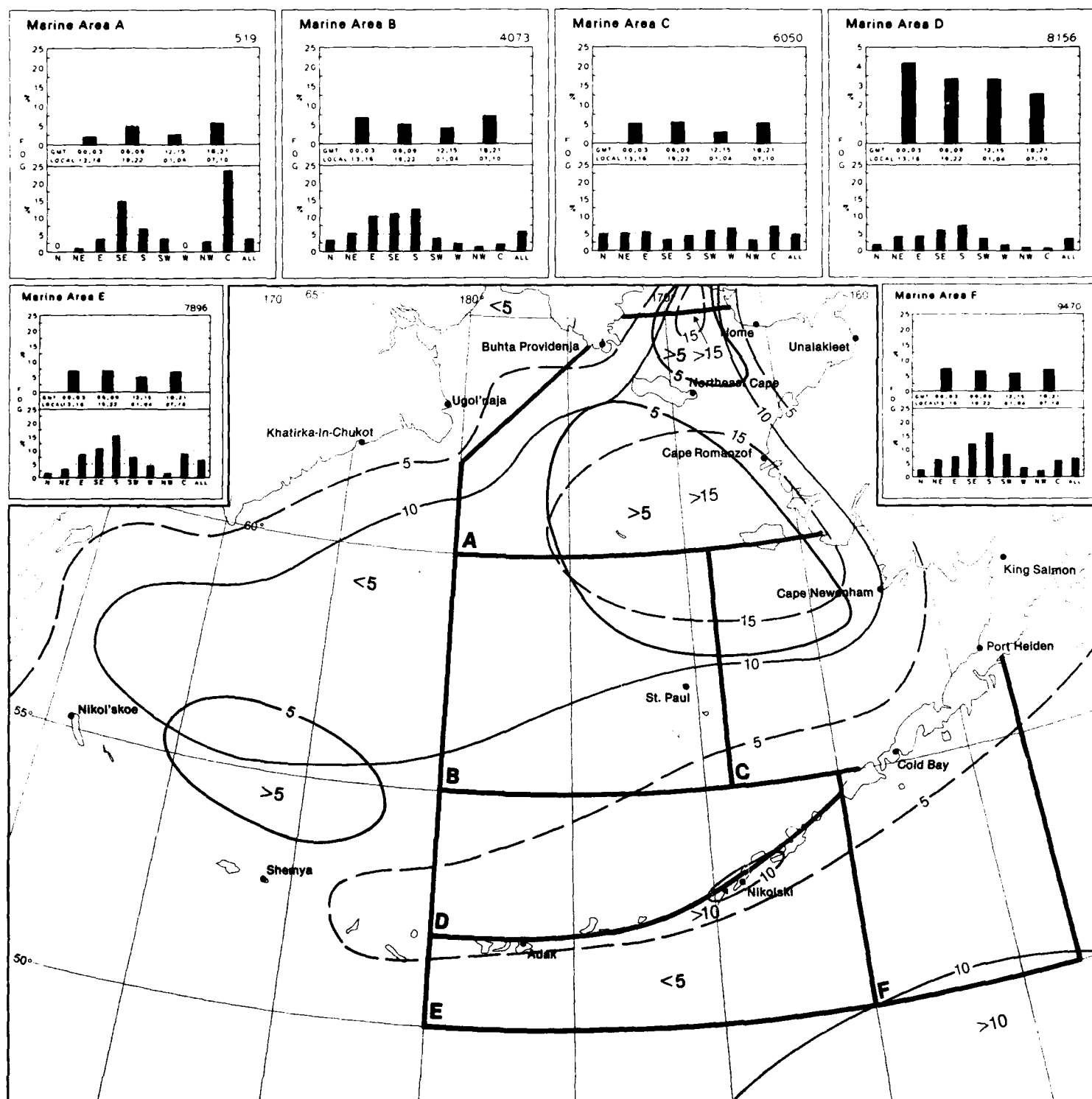
March

11-376



April

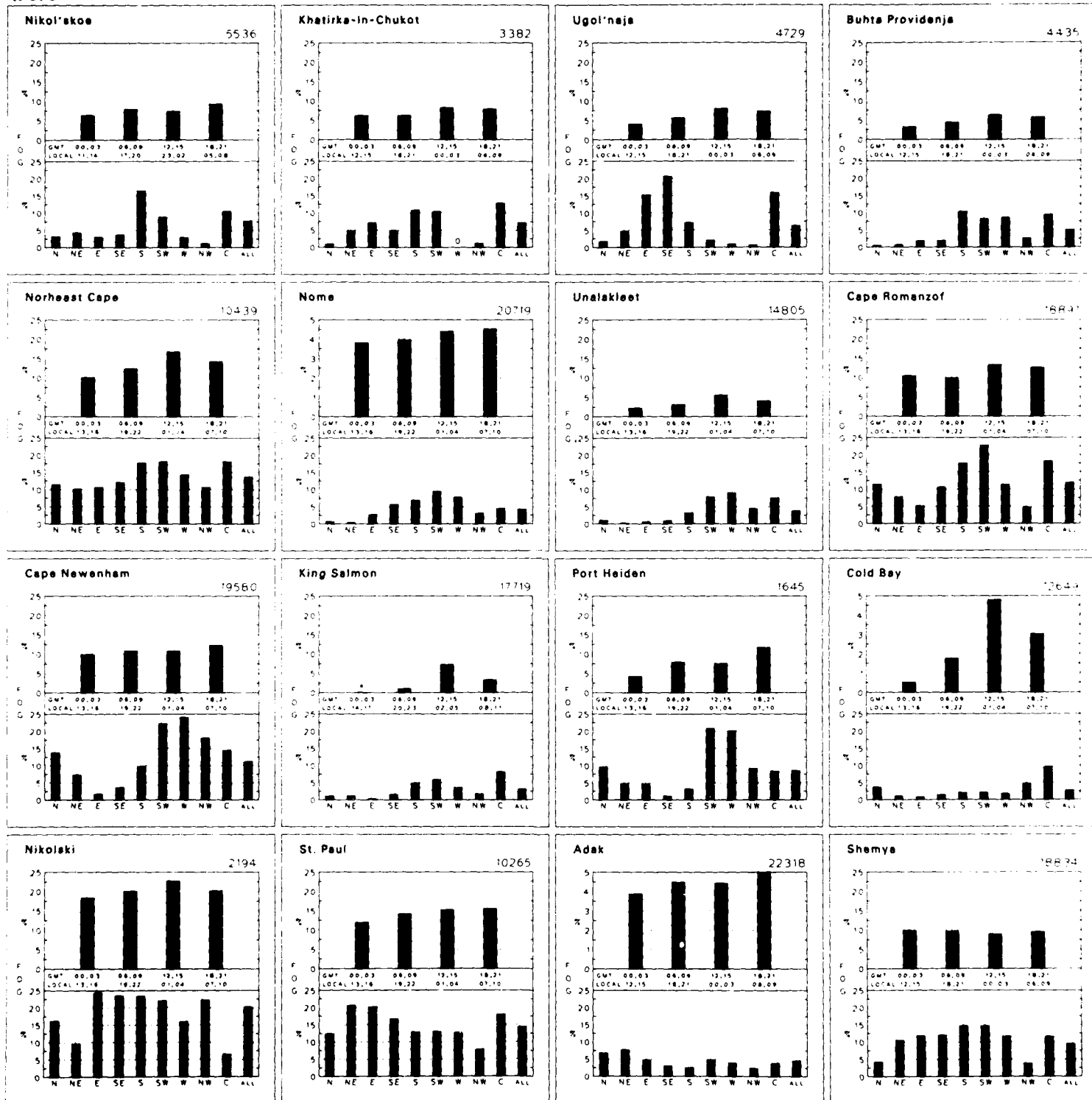
15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

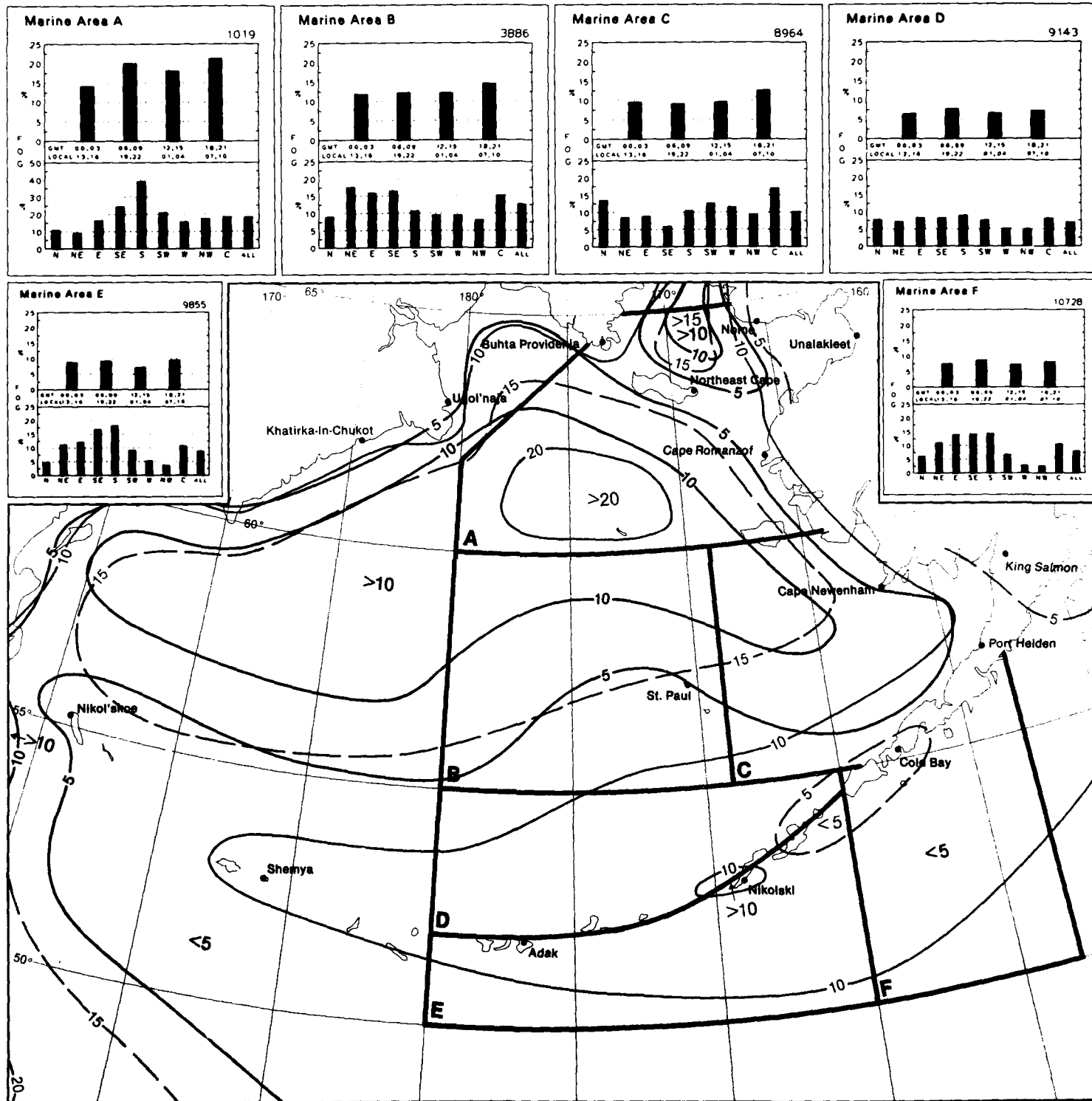
April

11-378



May

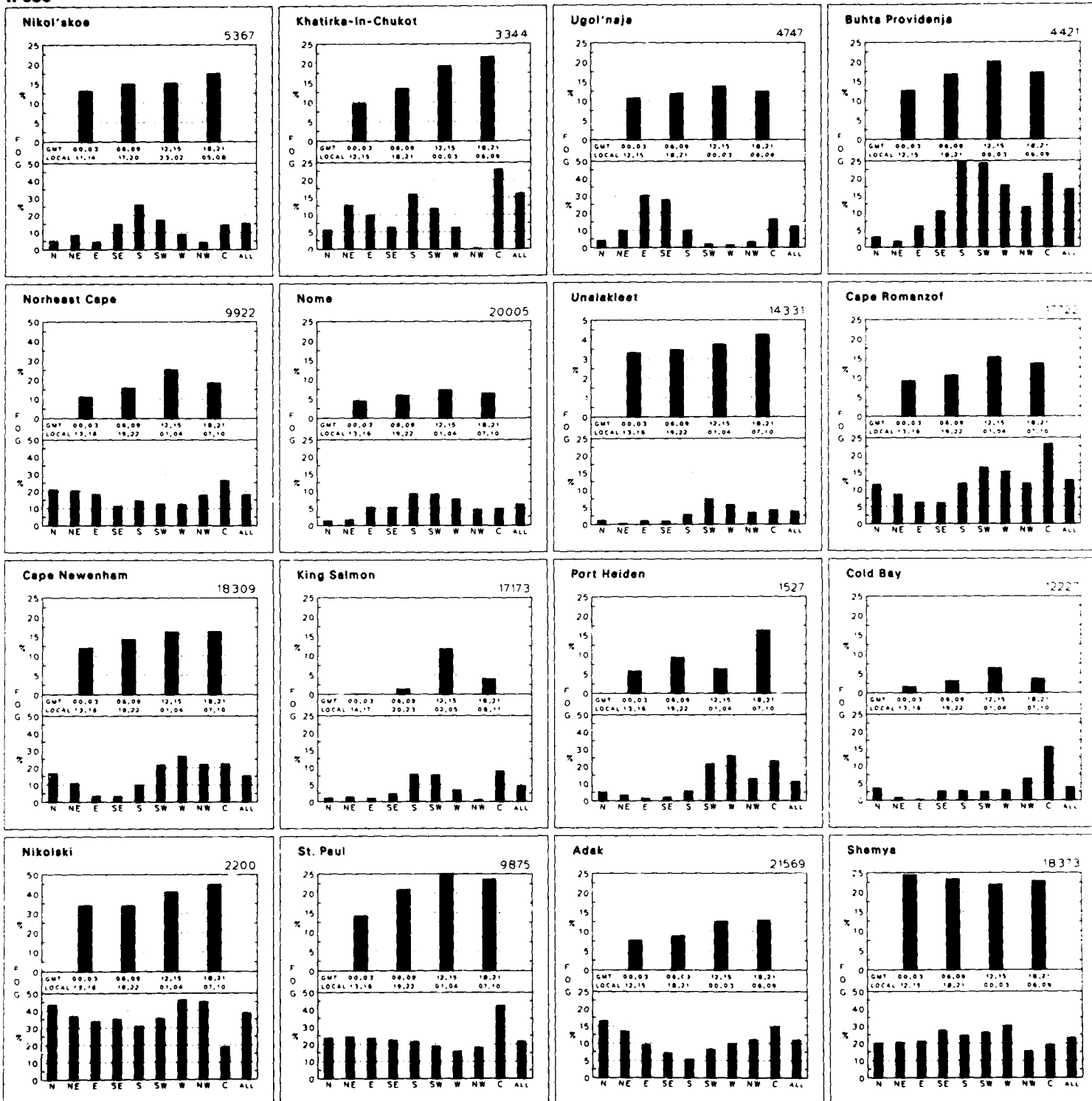
15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

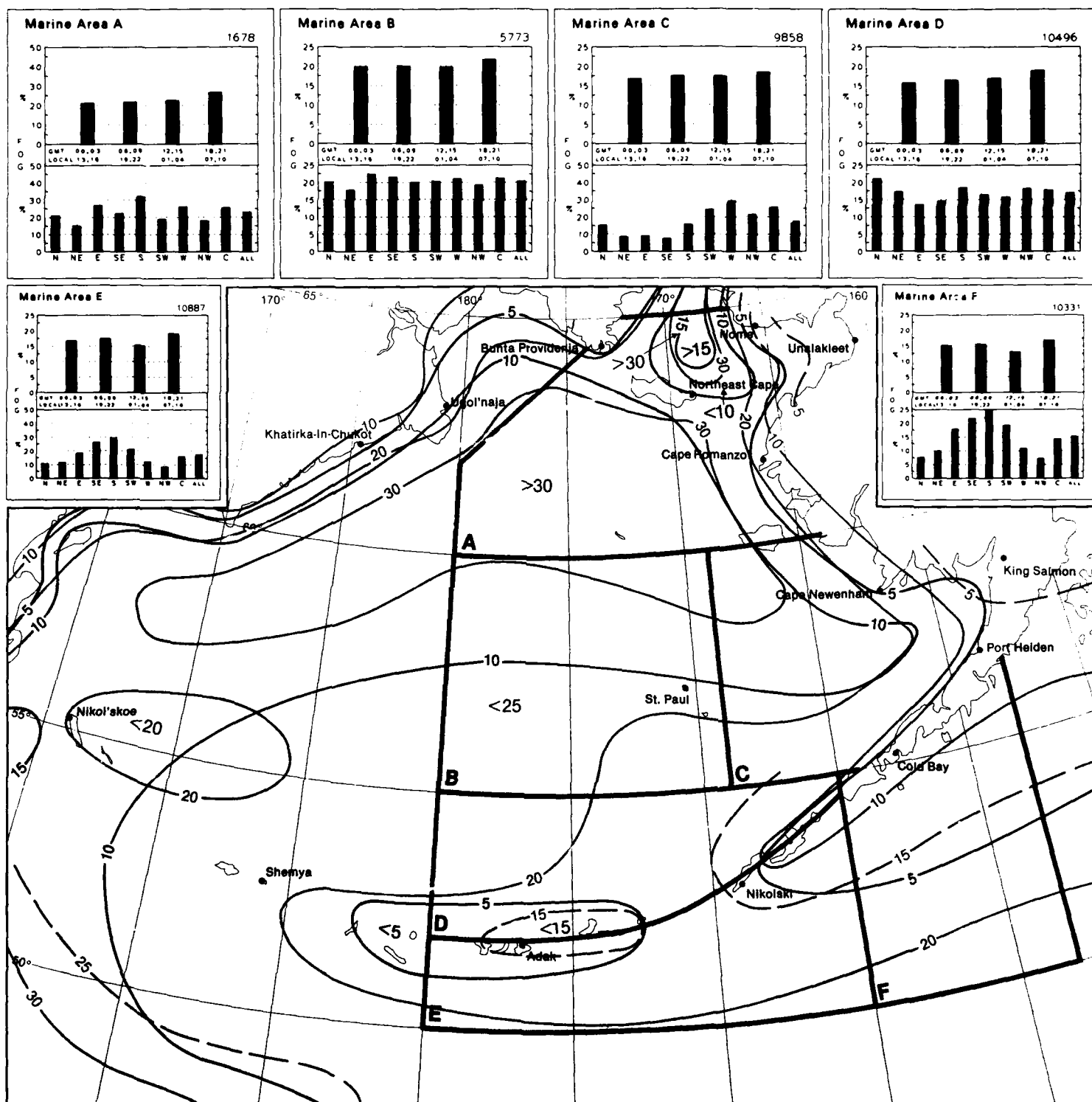
May





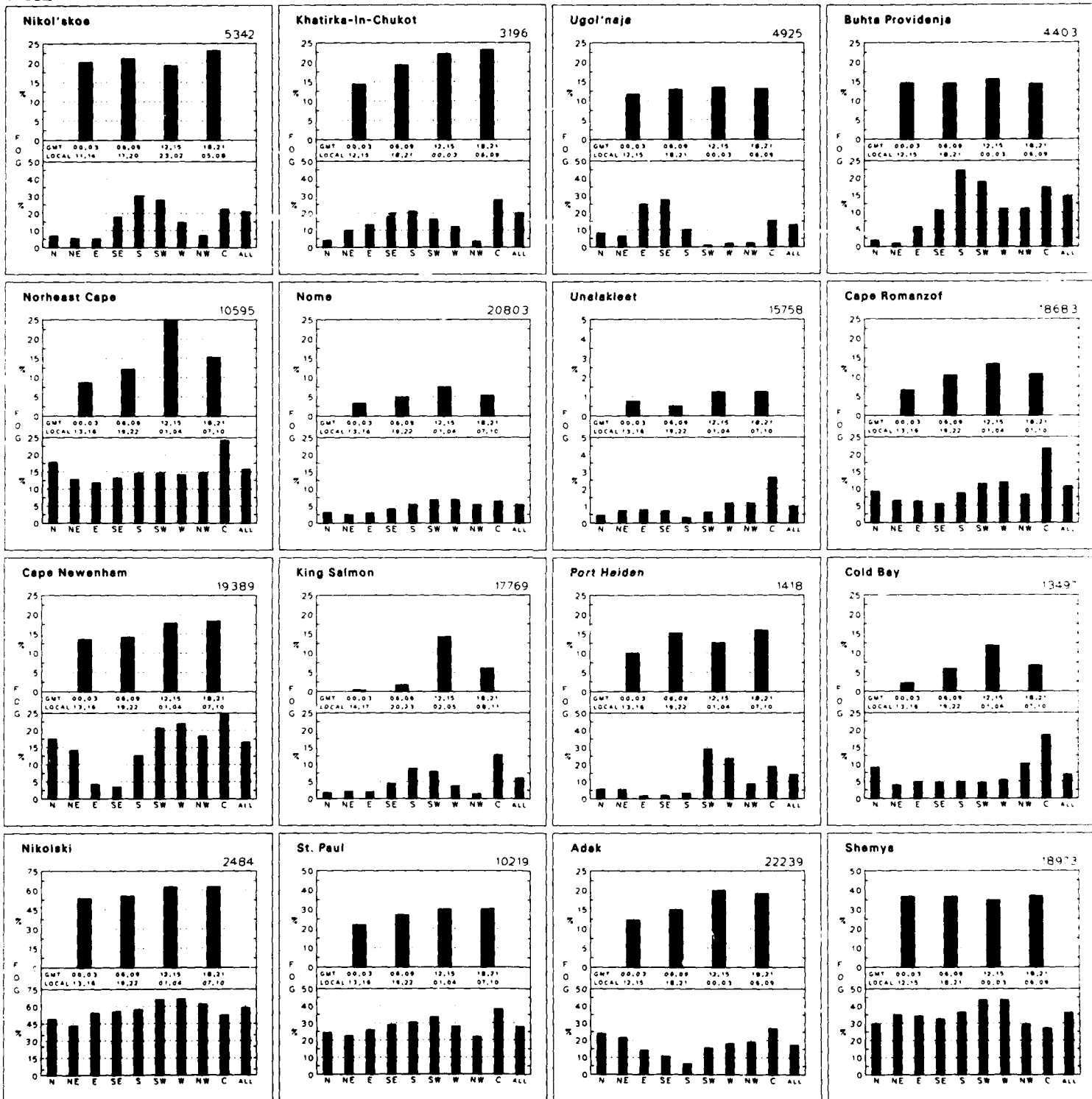
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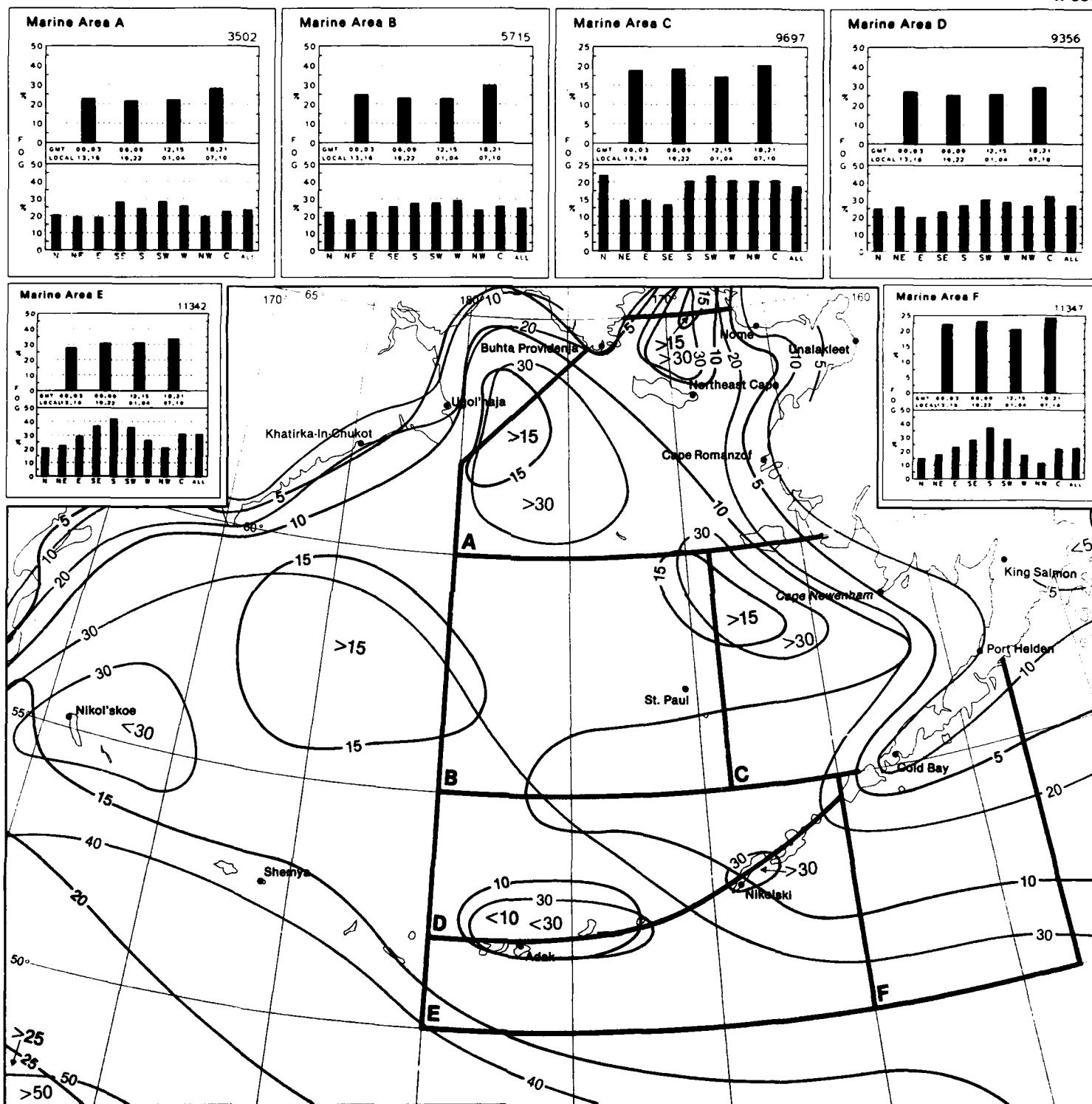
15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

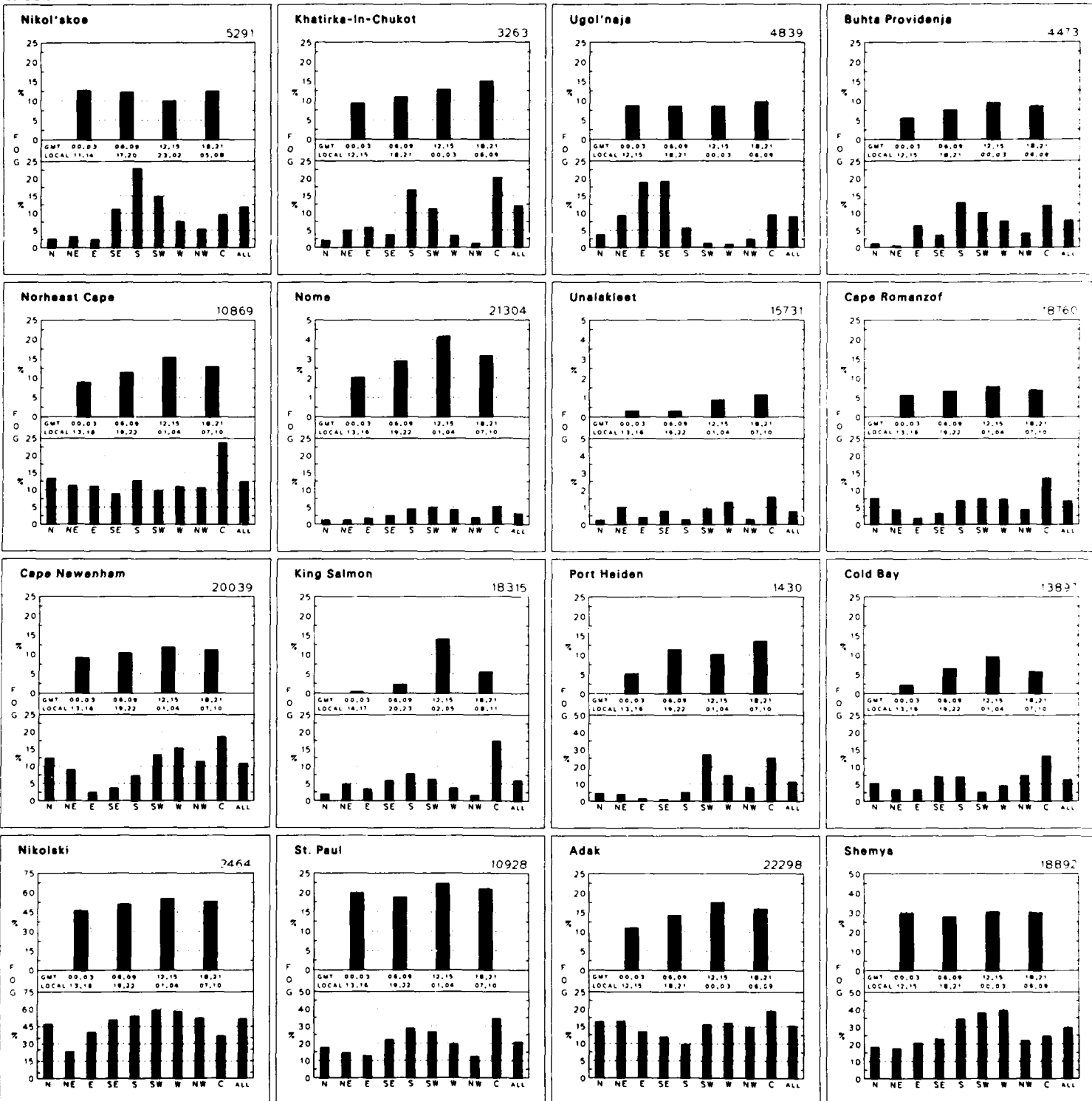
June





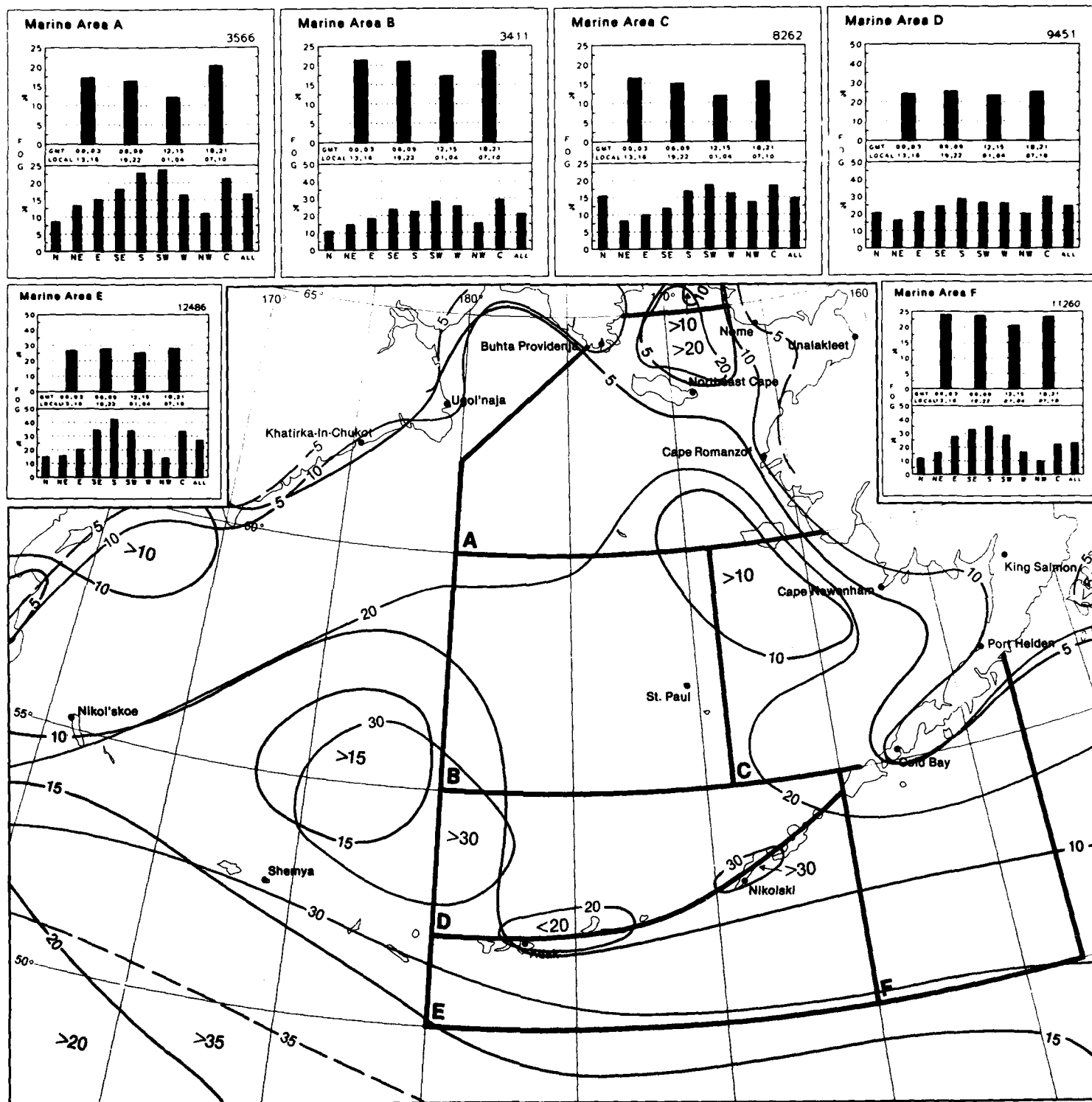
15 Fog and Poor Visibility

July



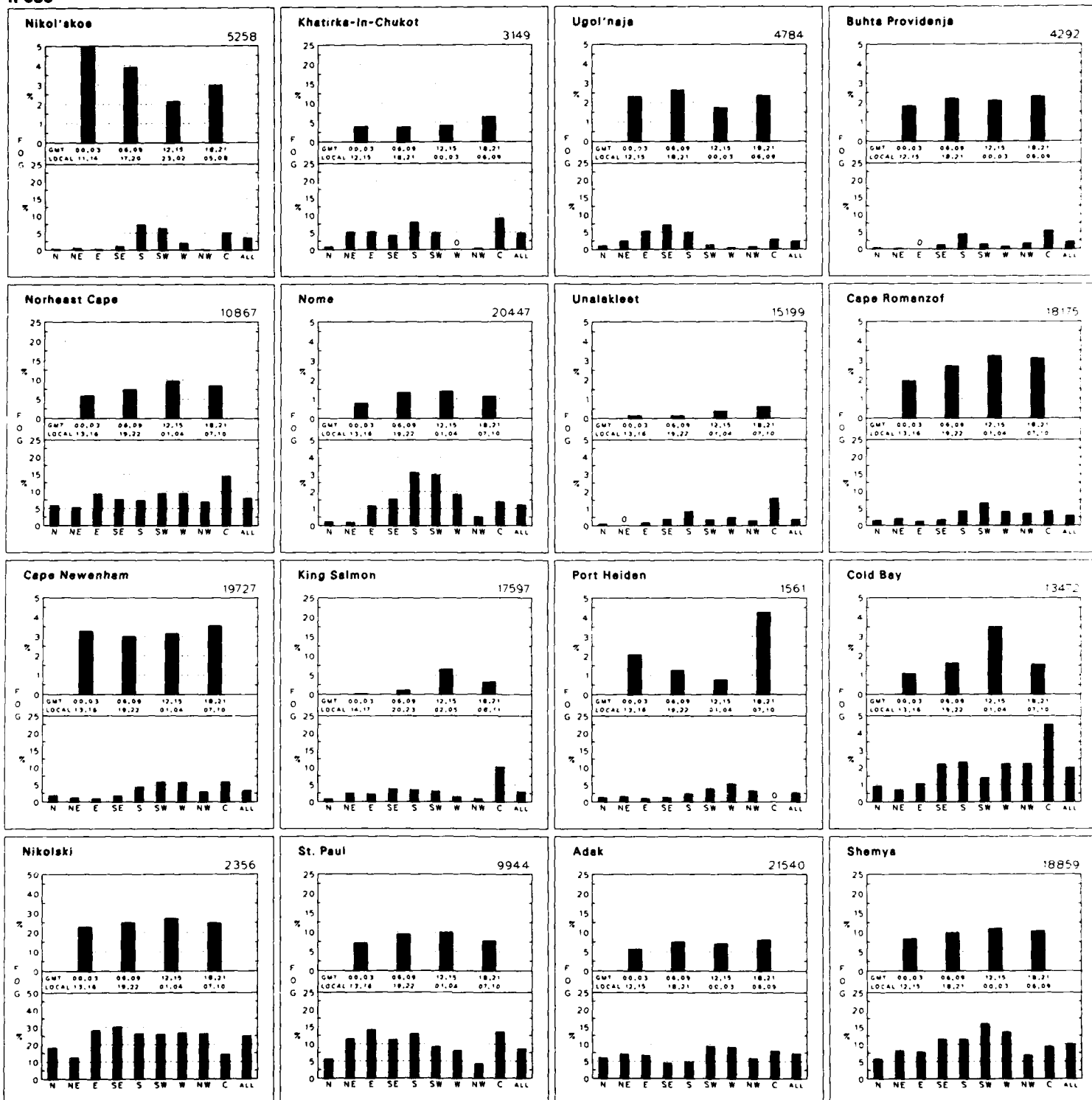
August

15 Fog-Time and Fog-Wind Direction



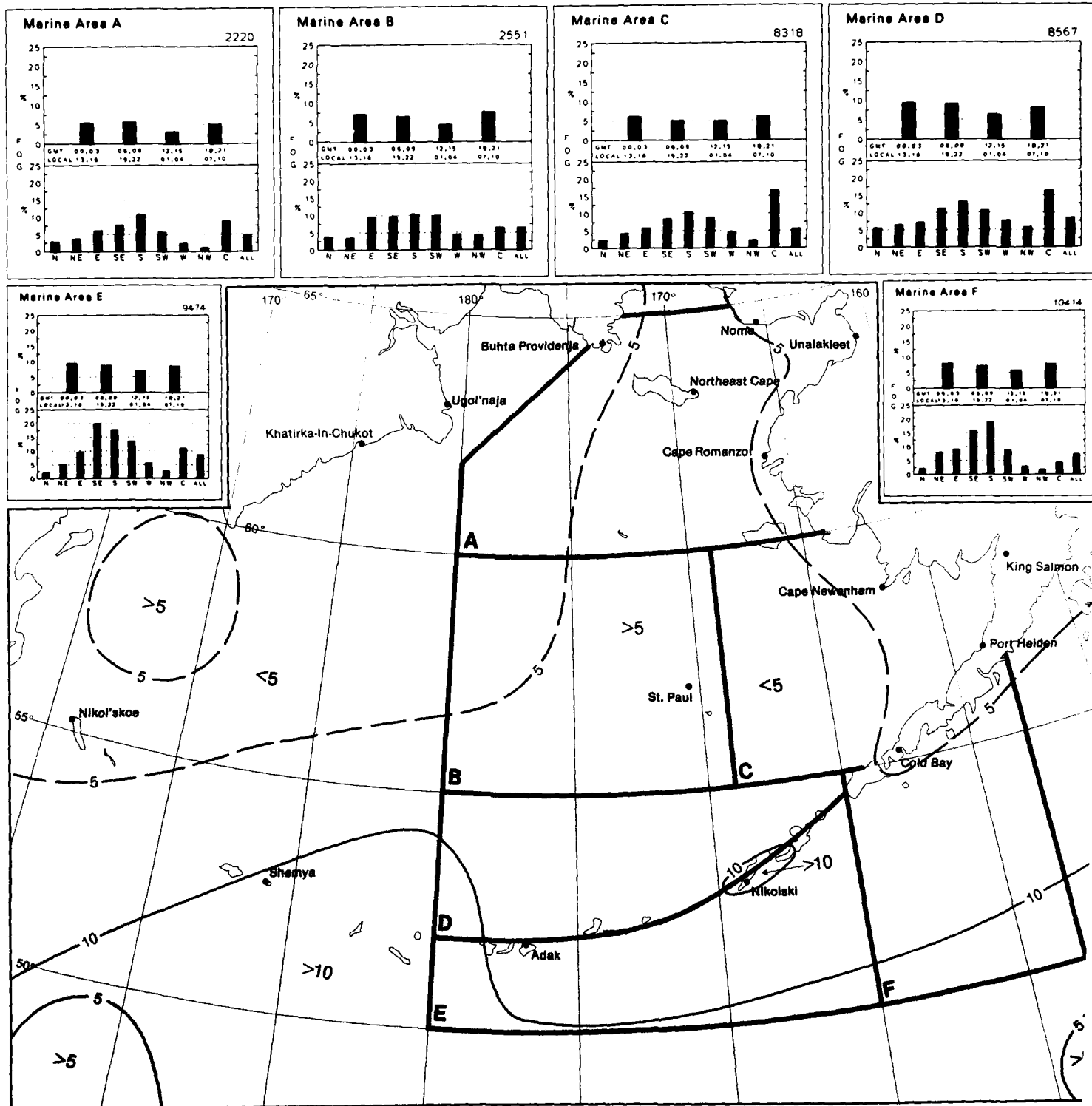
15 Fog and Poor Visibility

August



September

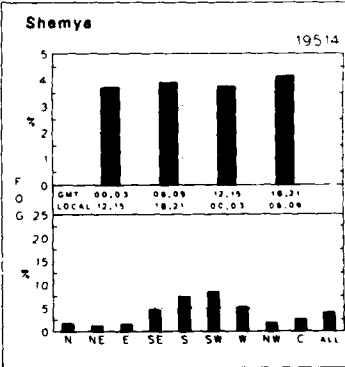
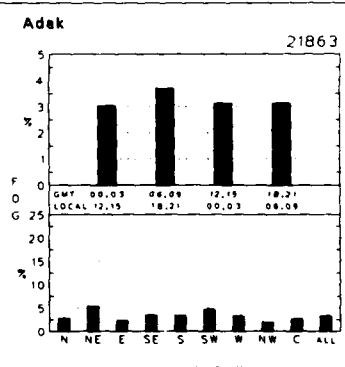
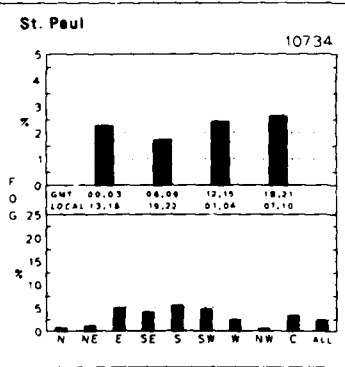
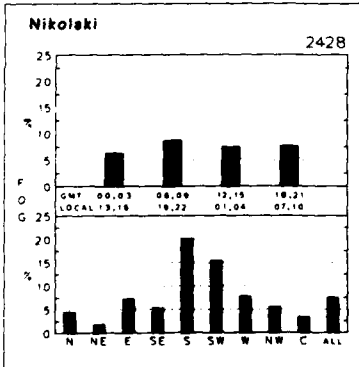
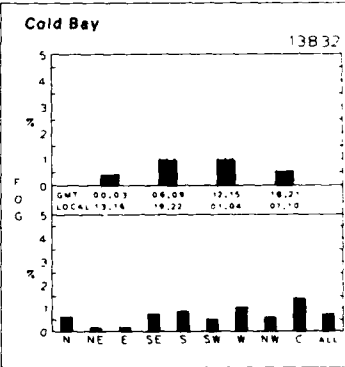
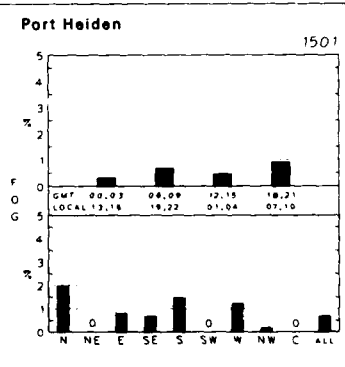
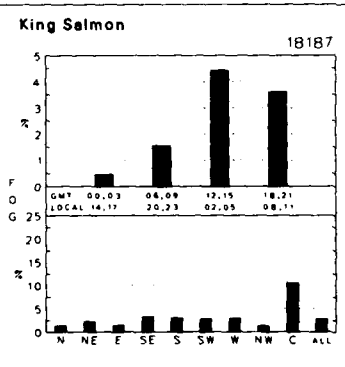
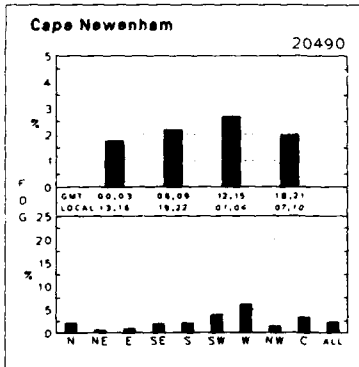
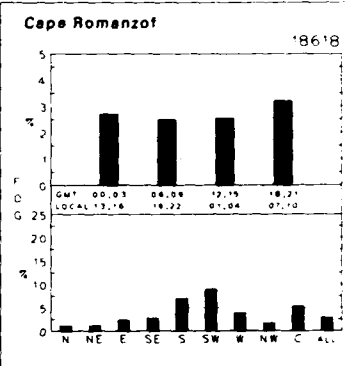
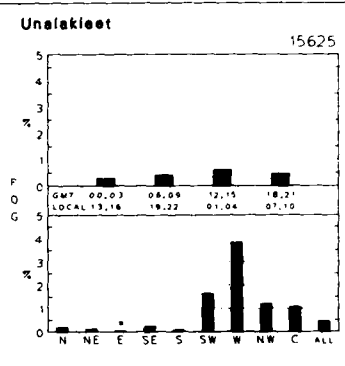
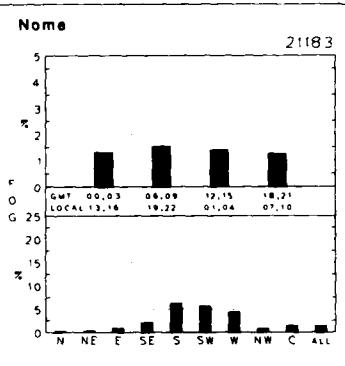
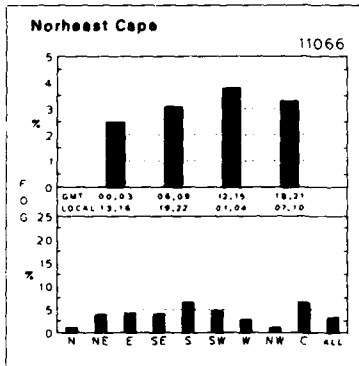
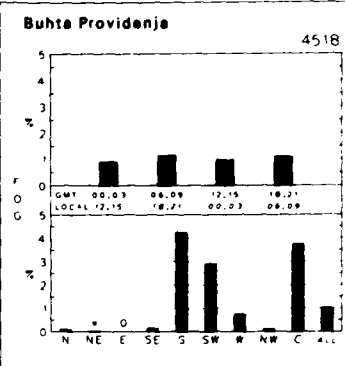
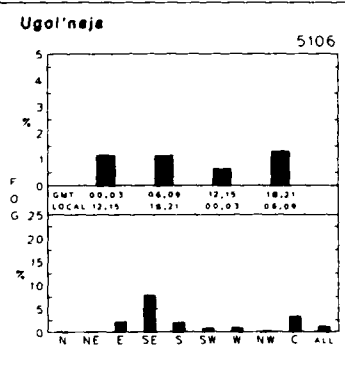
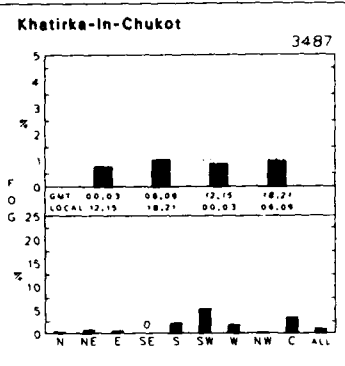
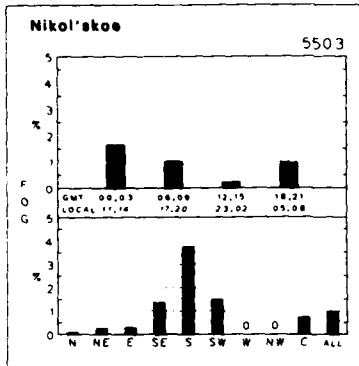
15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

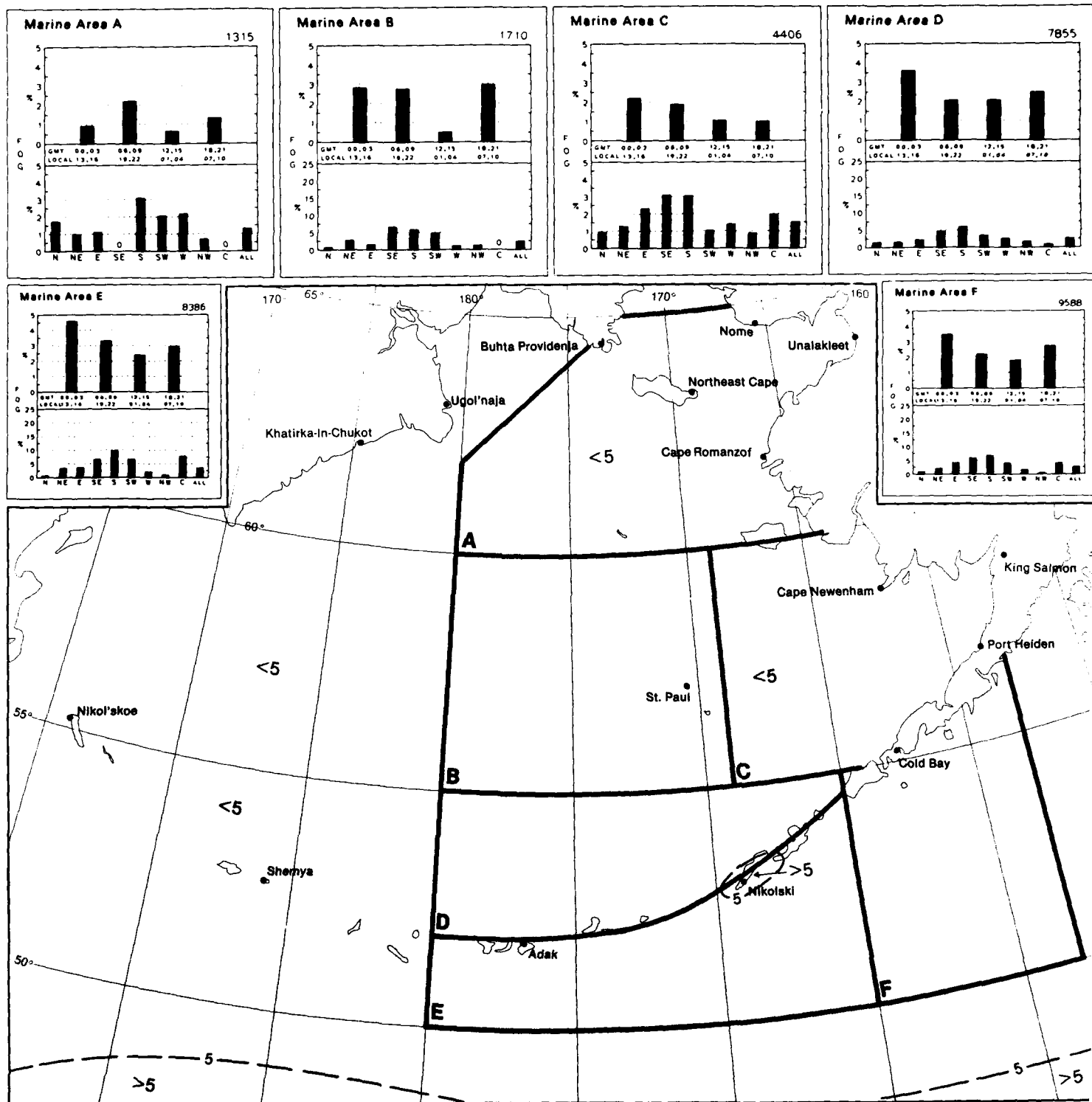
Septemb





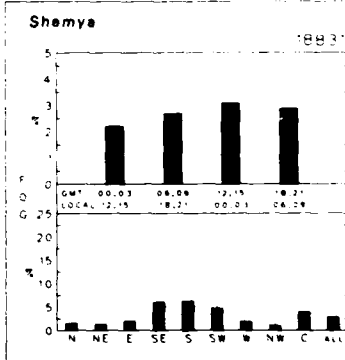
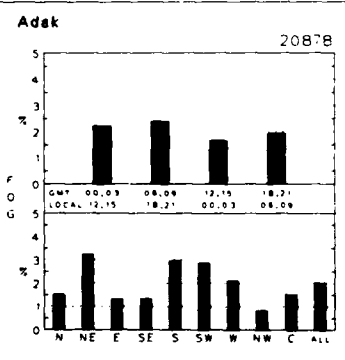
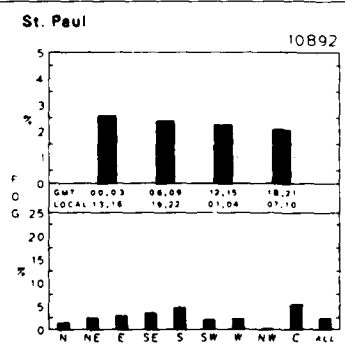
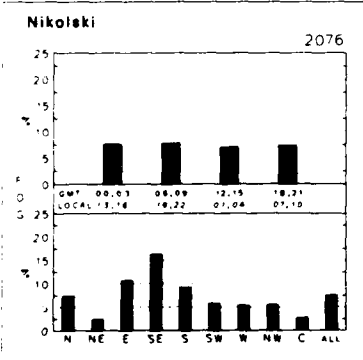
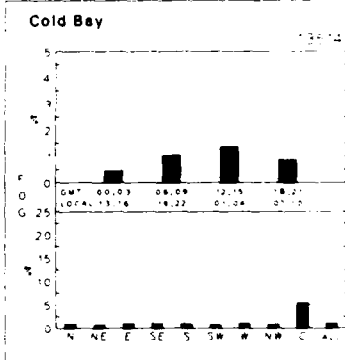
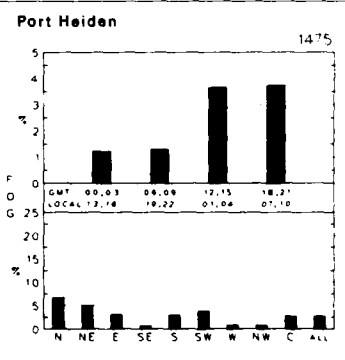
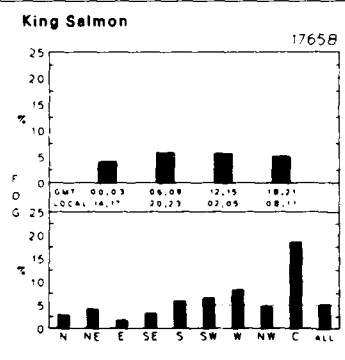
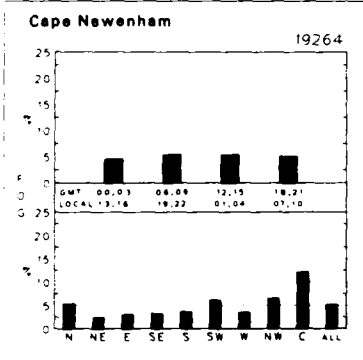
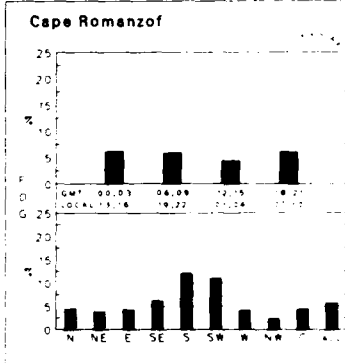
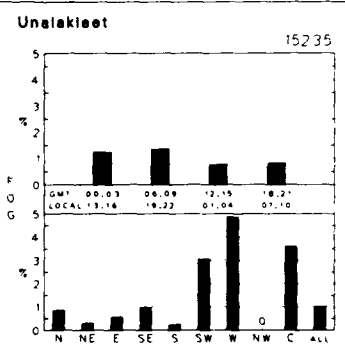
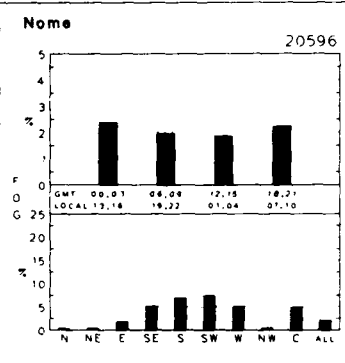
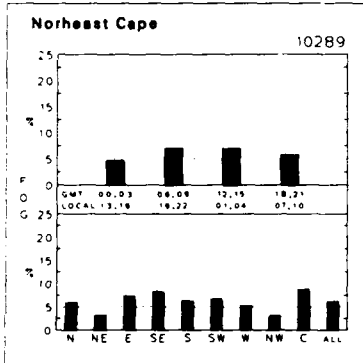
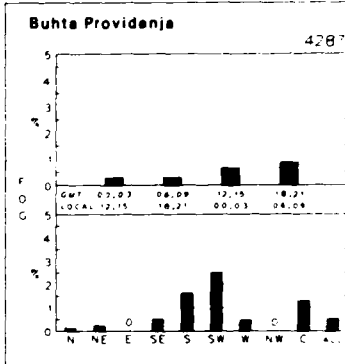
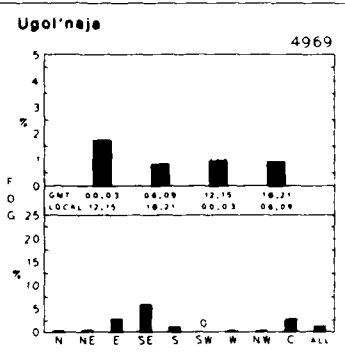
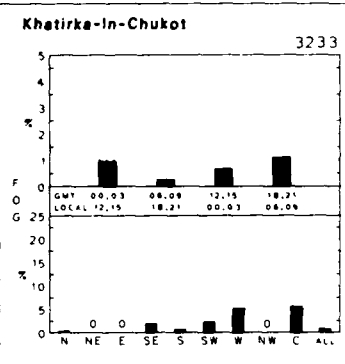
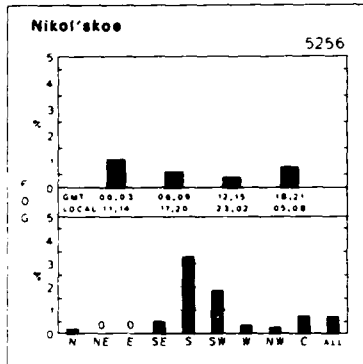
October

15 Fog-Time and Fog-Wind Direction



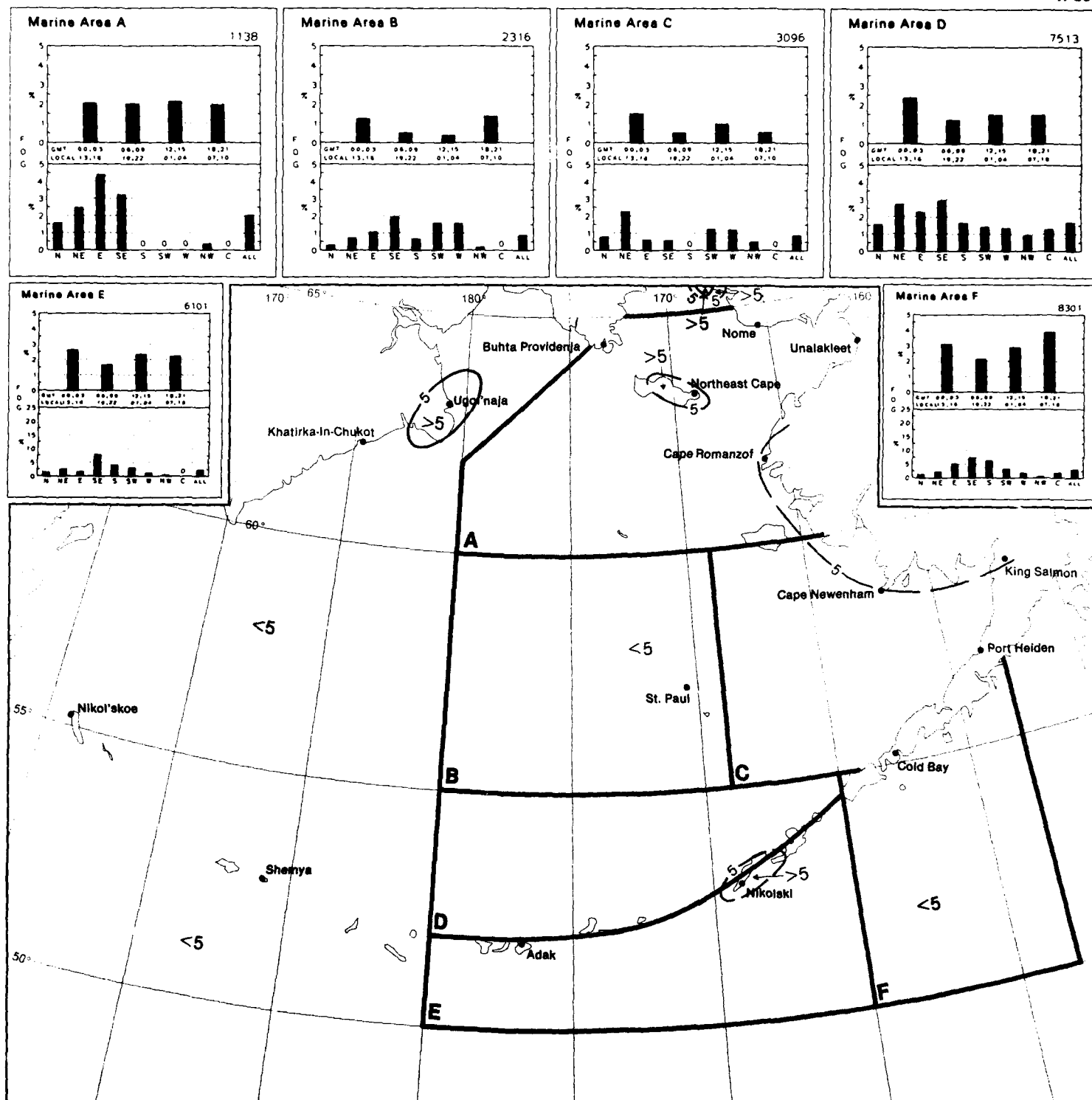
15 Fog and Poor Visibility

Octobe



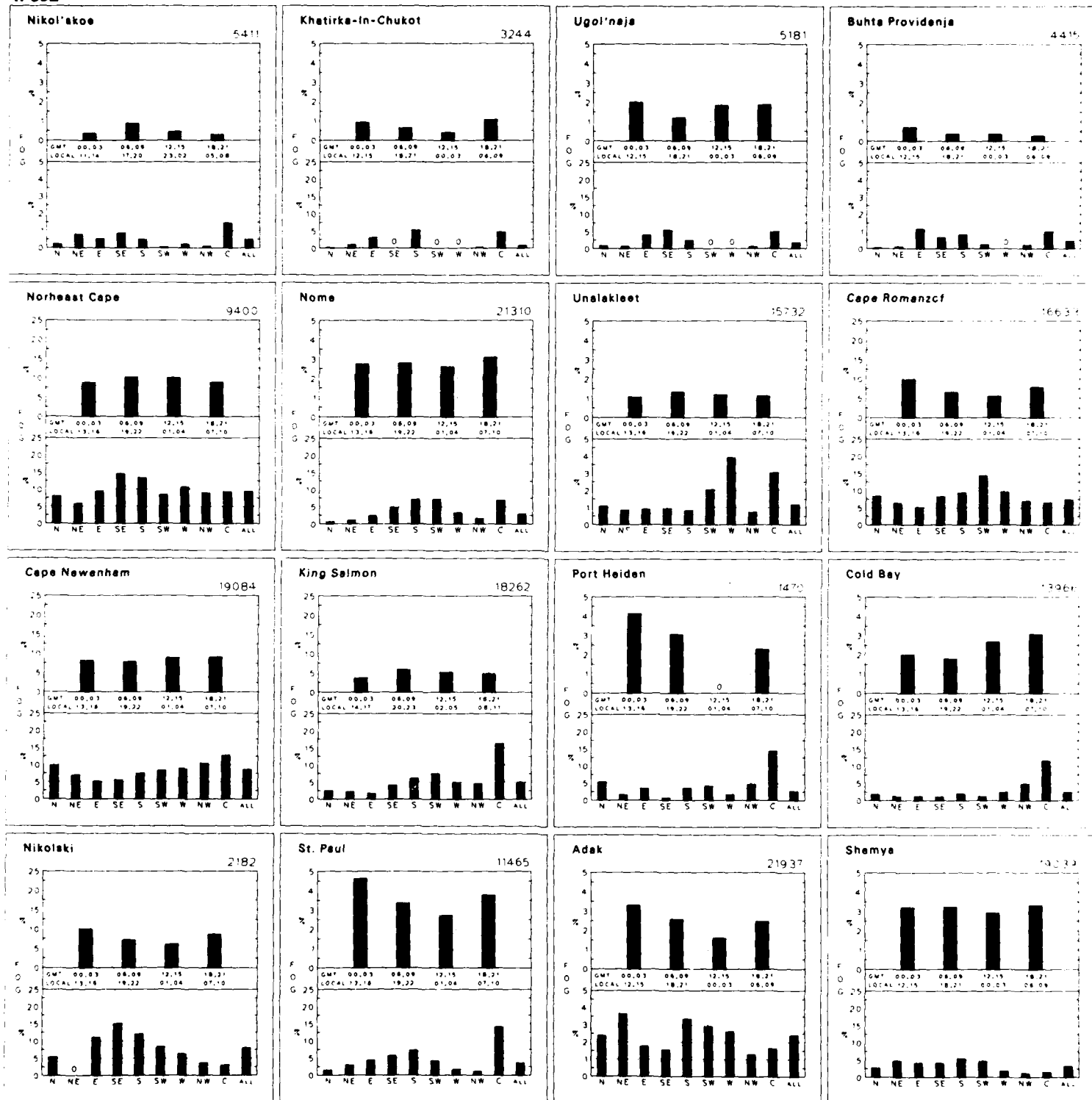
November

15 Fog-Time and Fog-Wind Direction



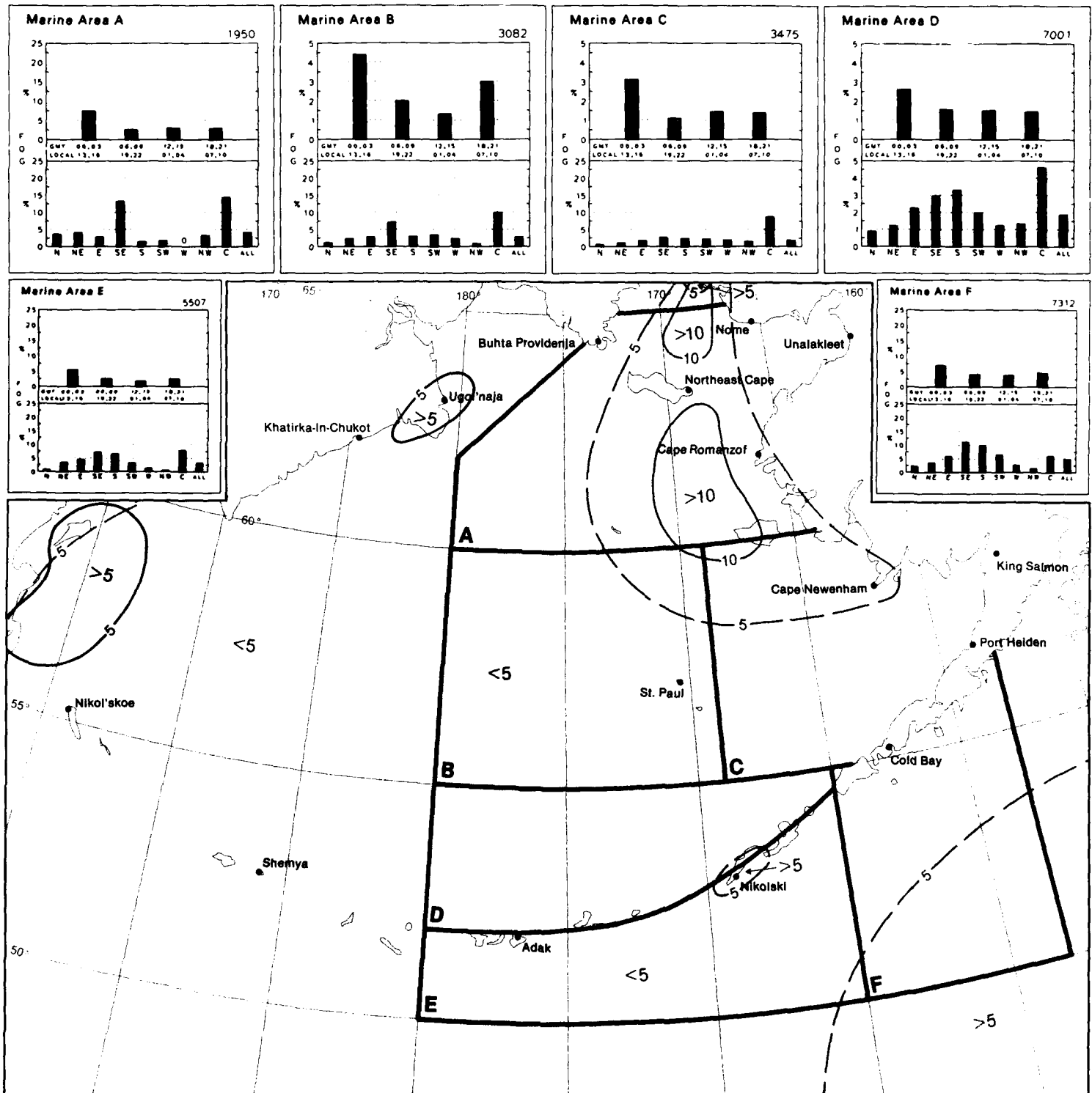
15 Fog and Poor Visibility

November



December

15 Fog-Time and Fog-Wind Direction



15 Fog and Poor Visibility

December

II-394

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## Map 16. Sea surface temperature extremes (°C)

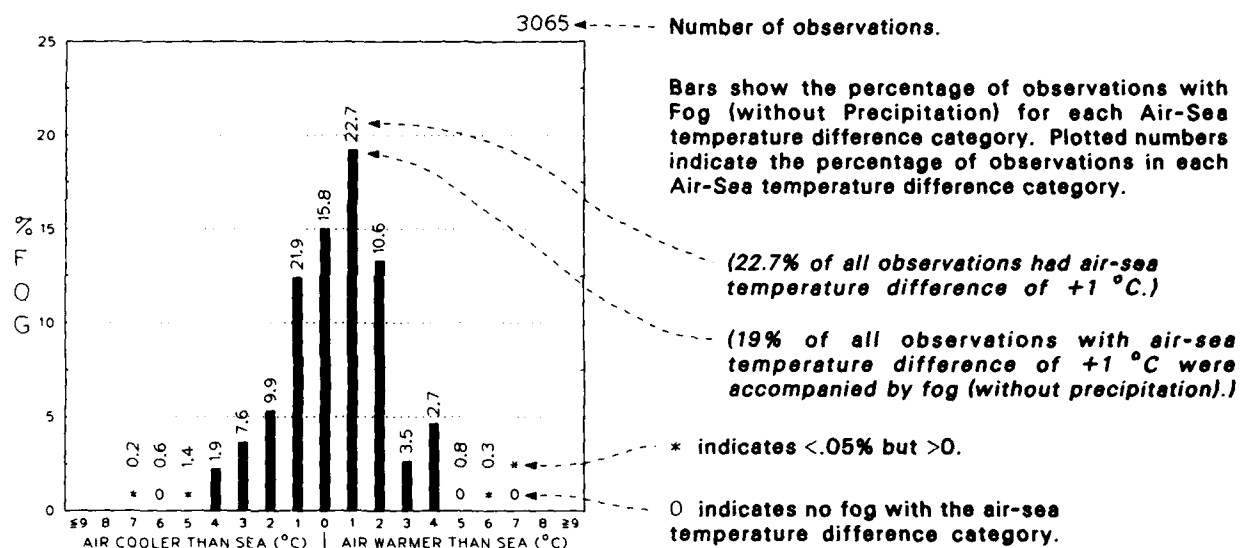
BLACK LINE – Maximum (99%) sea surface temperature (1% of the temperatures were greater than the given value).

BLUE LINE – Minimum (1%) sea surface temperature (1% of the temperatures were equal to or less than the given value).

Albers Equal-Area Conic Projection

### Graphs: Fog/air-sea temperature difference

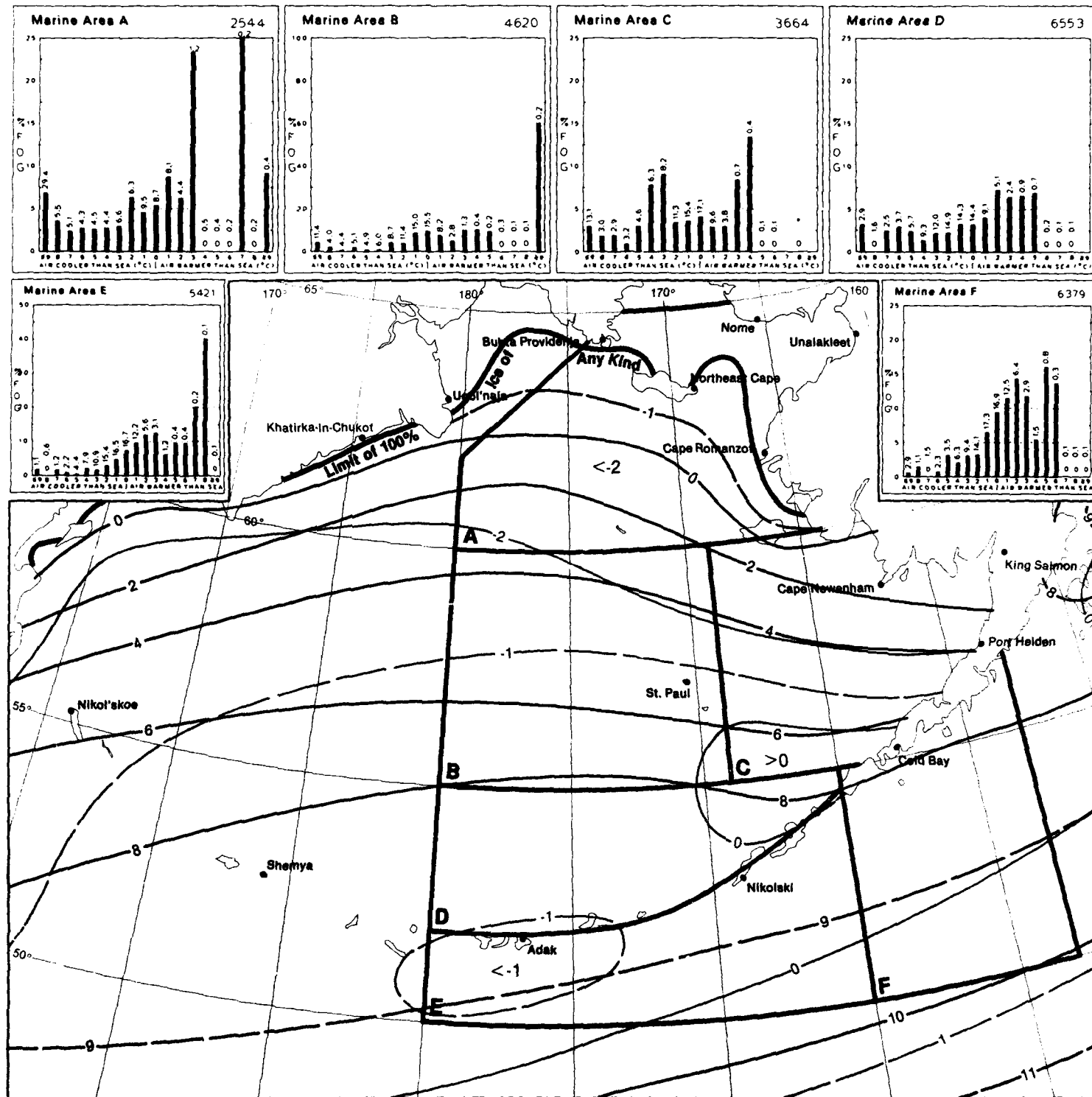
PERCENT FREQUENCY OF THE OCCURRENCE OF FOG (Without Precipitation) VERSUS AIR-SEA TEMPERATURE DIFFERENCE (°C)



Sea surface temperatures are recorded with a fairly high frequency in marine observations. The principal methods for observing the temperature of the water surface on merchant ships are by either a fluid thermometer located in the condenser intake of the ship or a thermometer immersed in a freshly-drawn bucket of surface water. While the intake method is commonly used on most merchant ships today, the bucket method was the most common a half century ago. Injection temperatures are not considered as representative of the surface temperature as bucket readings because the injectors are commonly located well below the water surface at depths of 5 to 20 meters depending on the size of the ship. Injection temperatures are also subject to varying errors due to heating caused by the ship. Bucket temperatures can also be biased by the air temperature or the bucket itself.

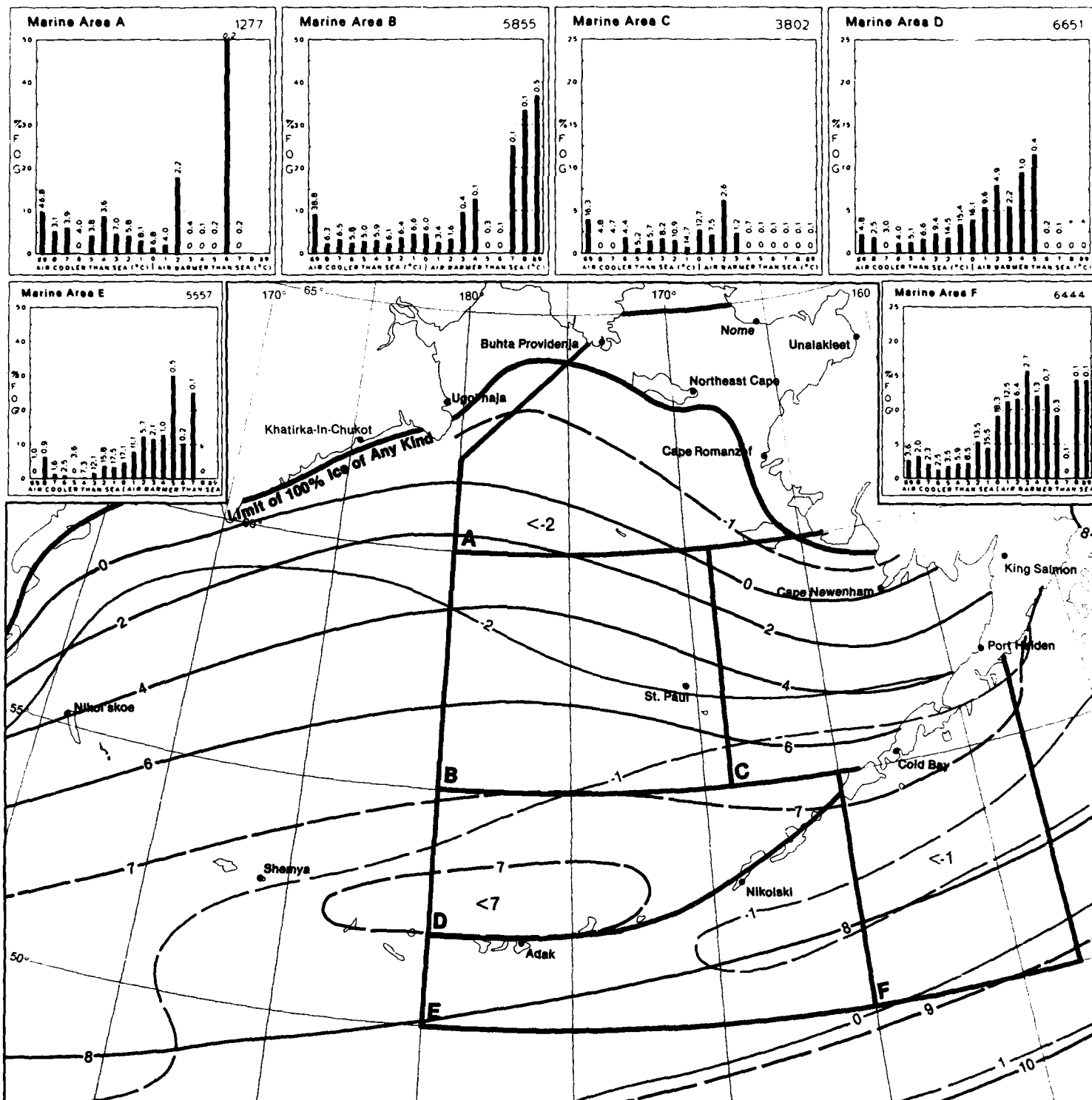
Even though the two methods produce slightly different results, the data can be used with considerable confidence. The isopleths representing extreme conditions show the maximum (99%) and the minimum (1%) levels of sea surface temperature. Gradients and relative values of the isopleths are considered reliable.





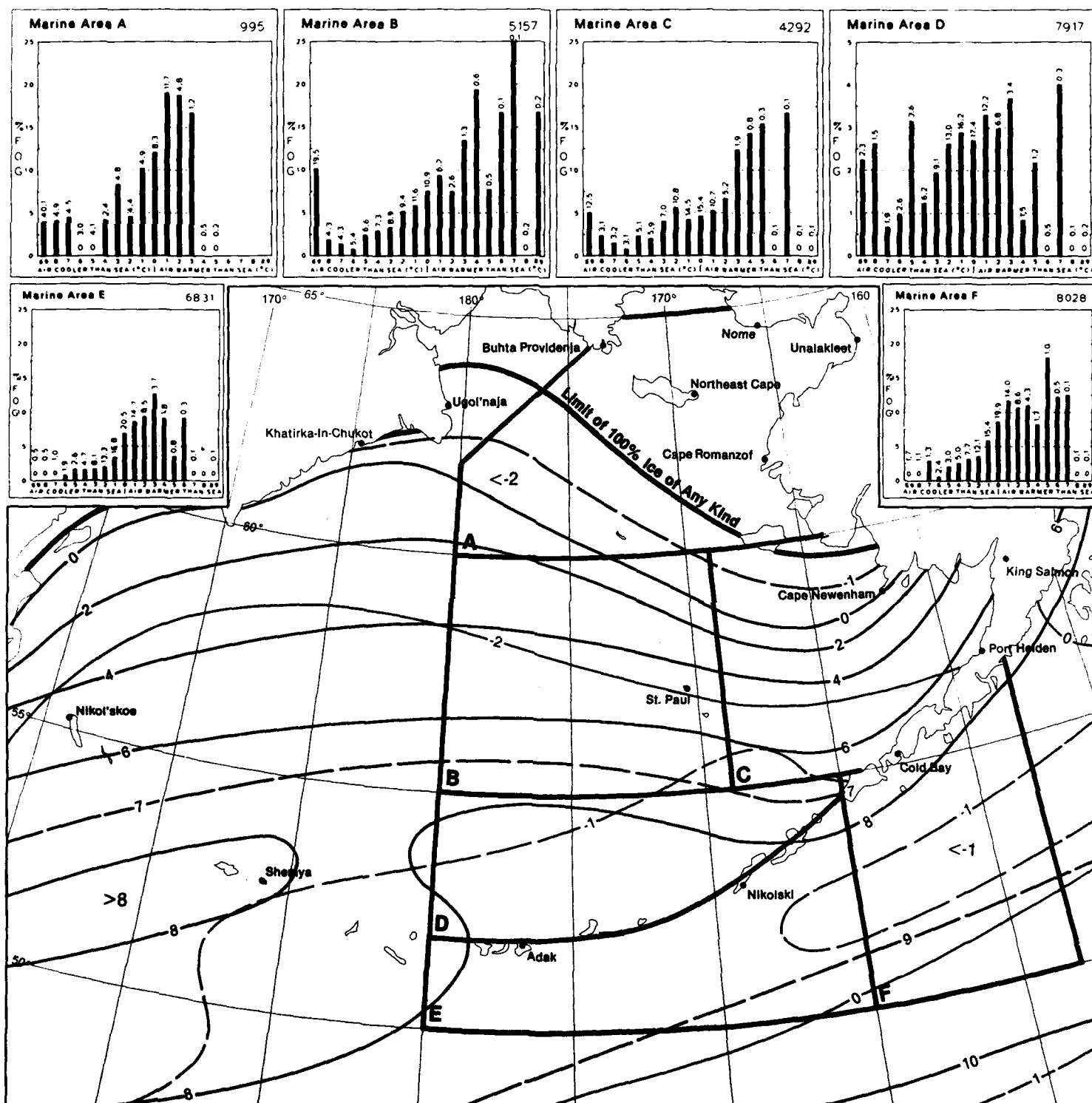
January

16 Fog and Air-Sea Temperature Difference  
Sea Surface Temperature Extremes



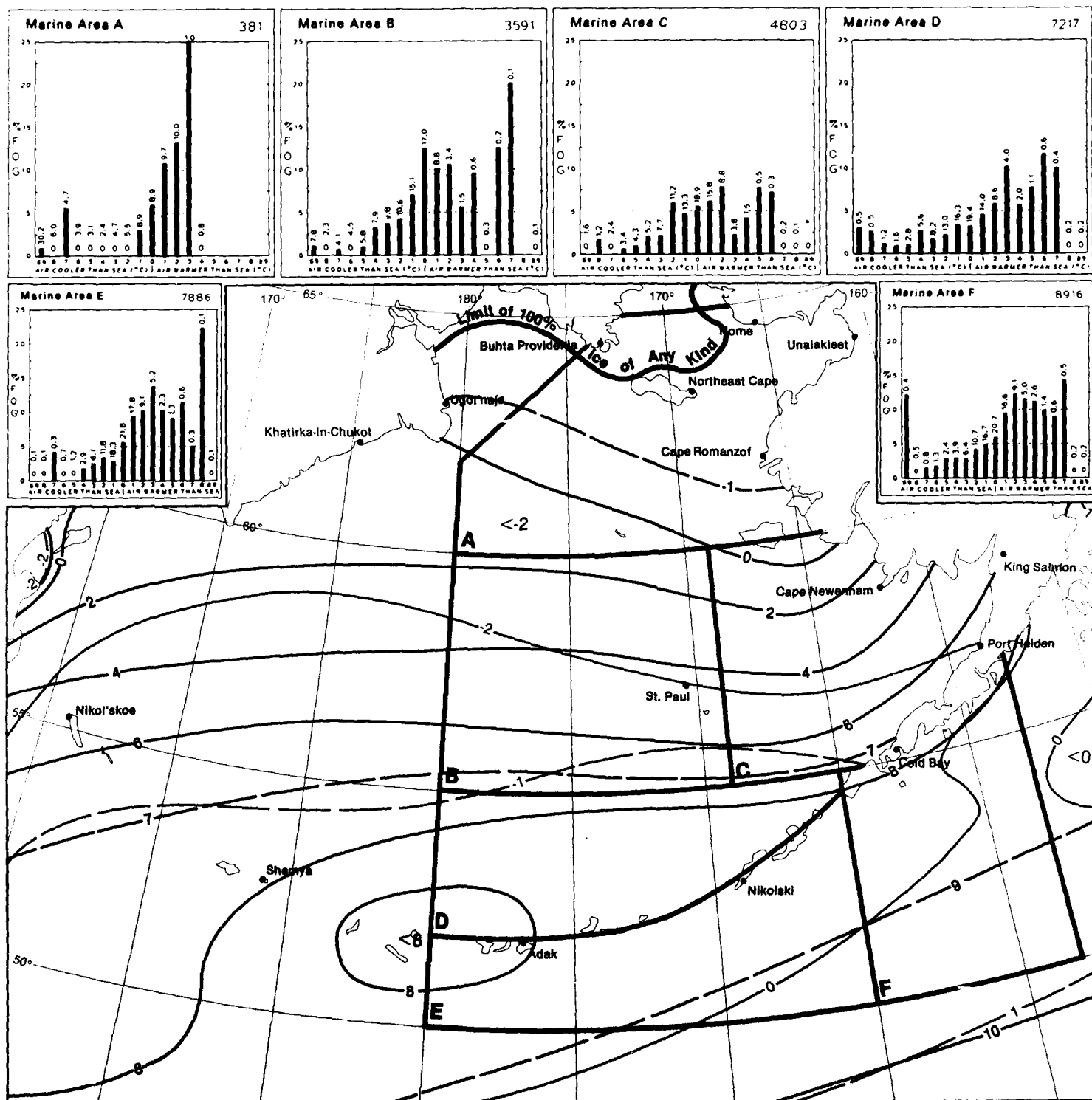
16 Fog and Air-Sea Temperature Difference  
Sea Surface Temperature Extremes

February



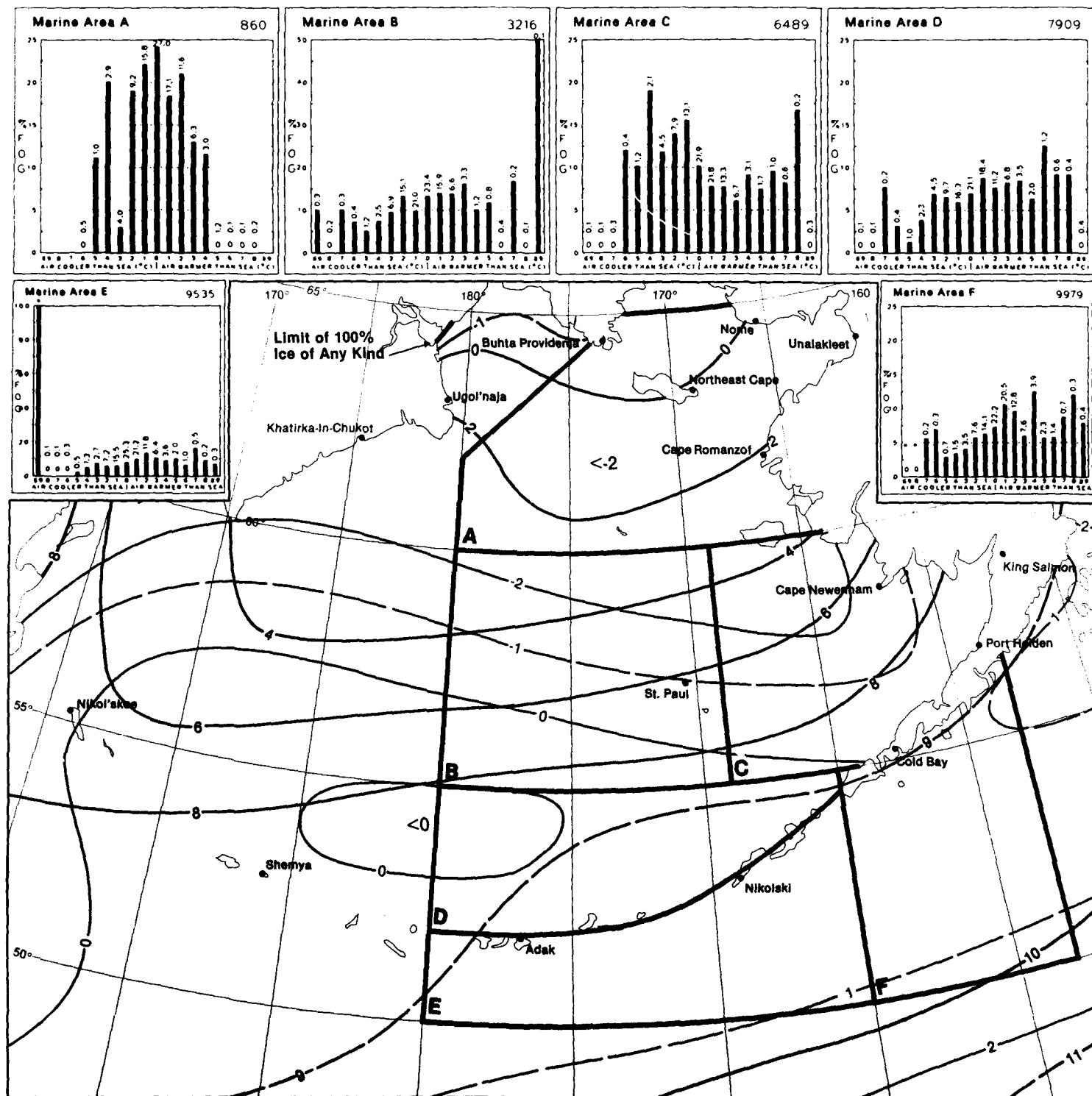
## March

## 16 Fog and Air-Sea Temperature Difference Sea Surface Temperature Extremes



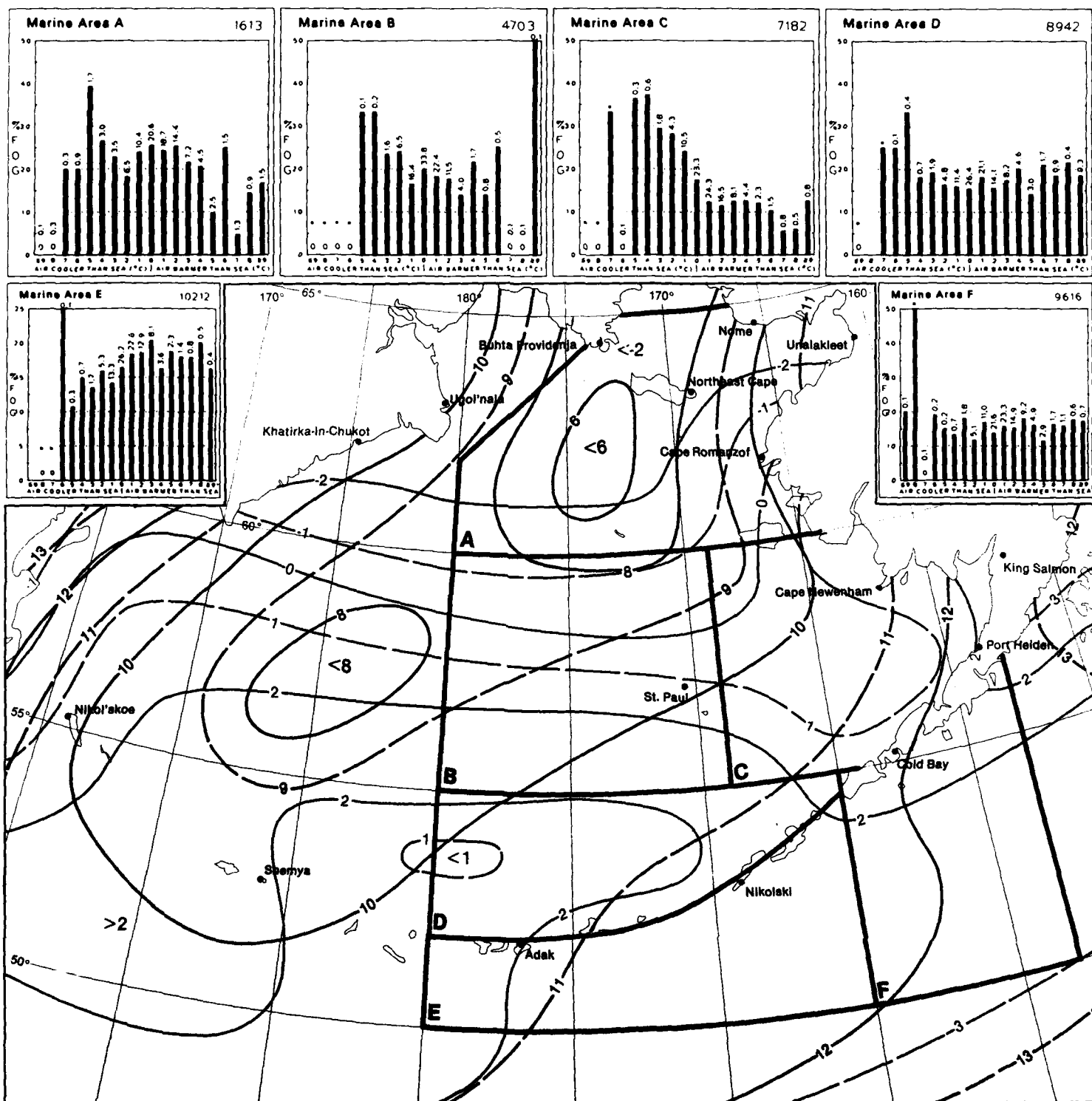
16 Fog and Air-Sea Temperature Difference  
Sea Surface Temperature Extremes

April



May

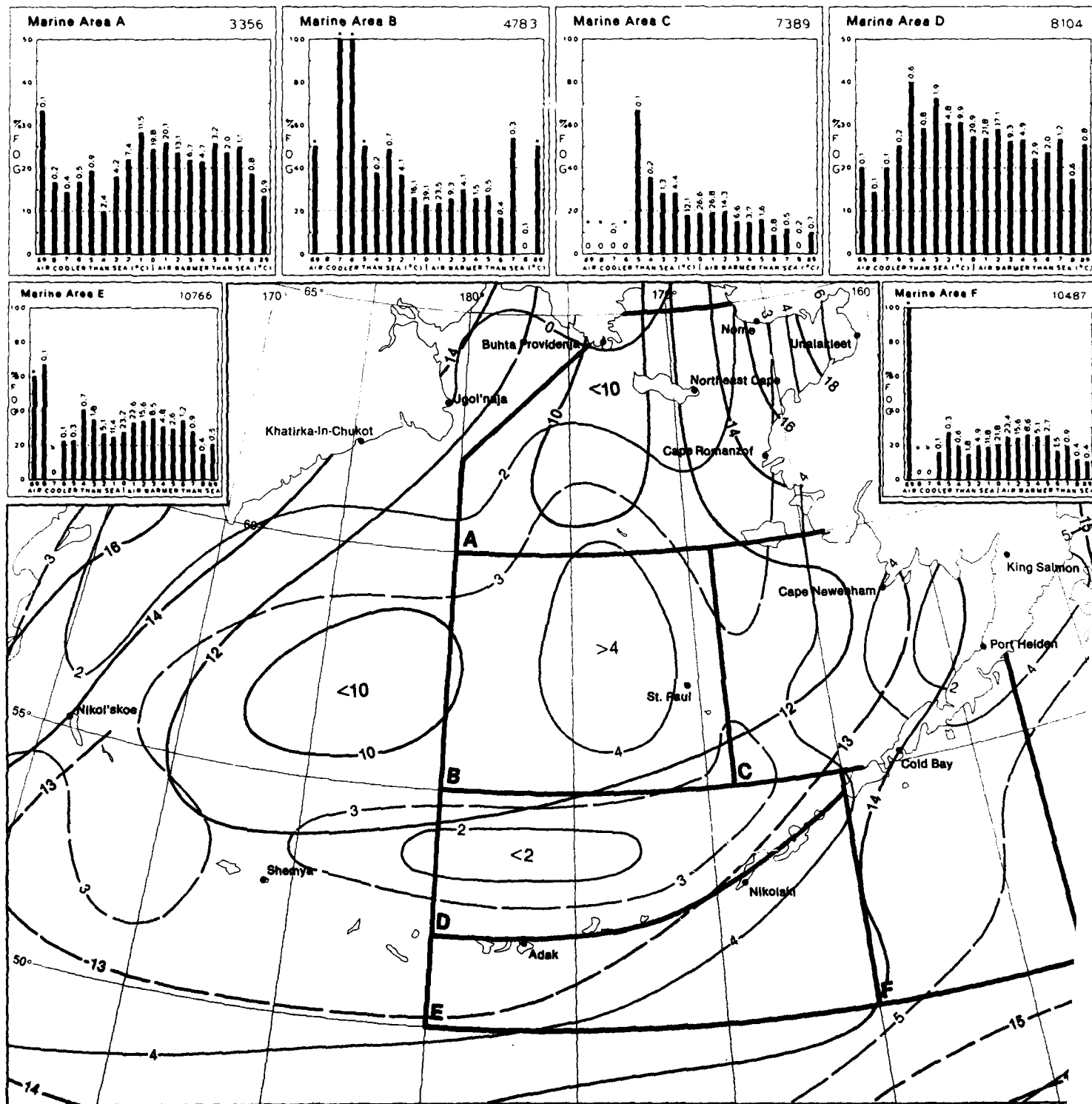
16 Fog and Air-Sea Temperature Difference  
Sea Surface Temperature Extremes



16 Fog and Air-Sea Temperature Difference  
Sea Surface Temperature Extremes

June

II-402



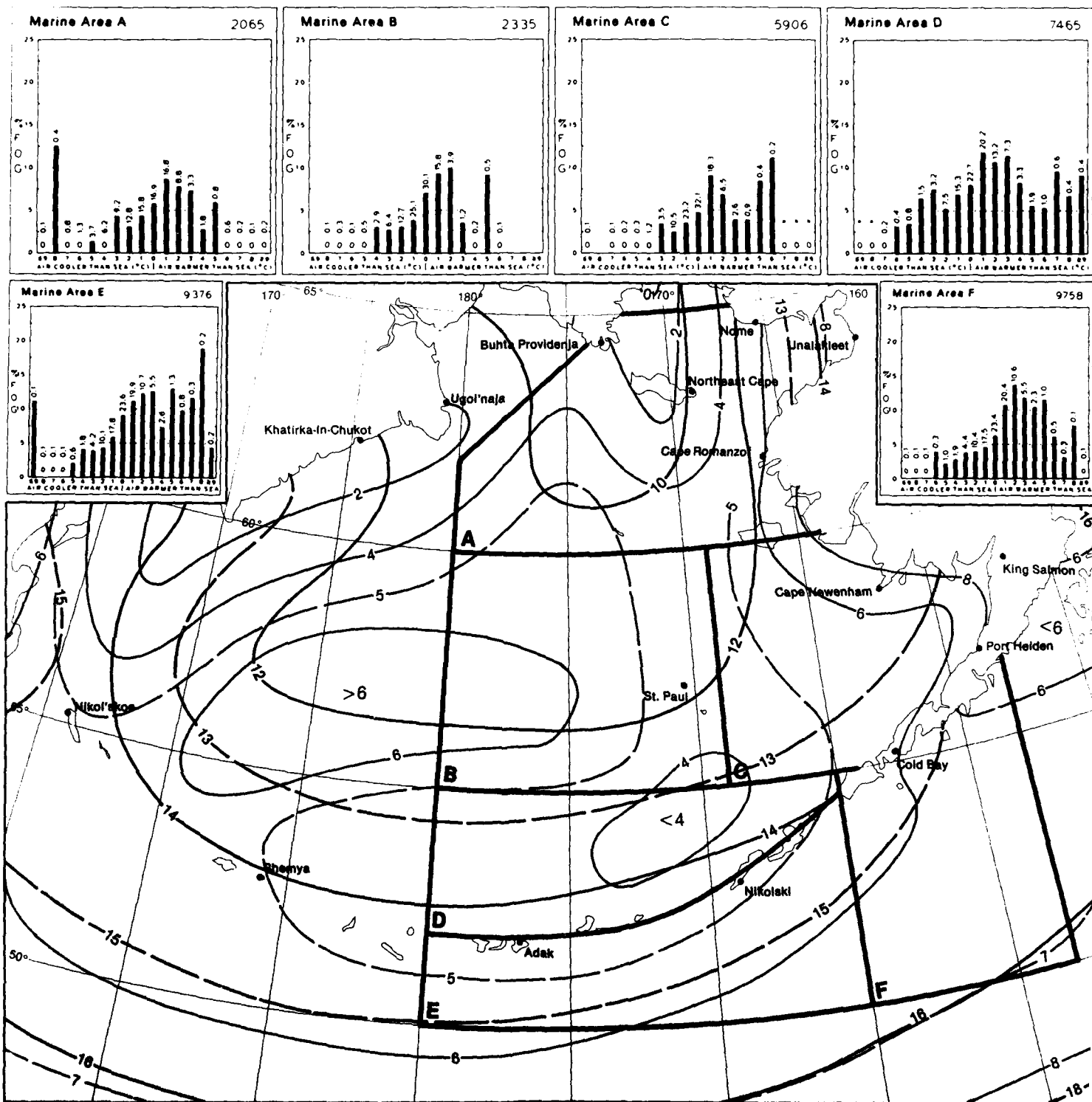
July

16 Fog and Air-Sea Temperature Differ  
Sea Surface Temperature Extremes

## 16 Fog and Air-Sea Temperature Difference Sea Surface Temperature Extremes

**Aug**





September

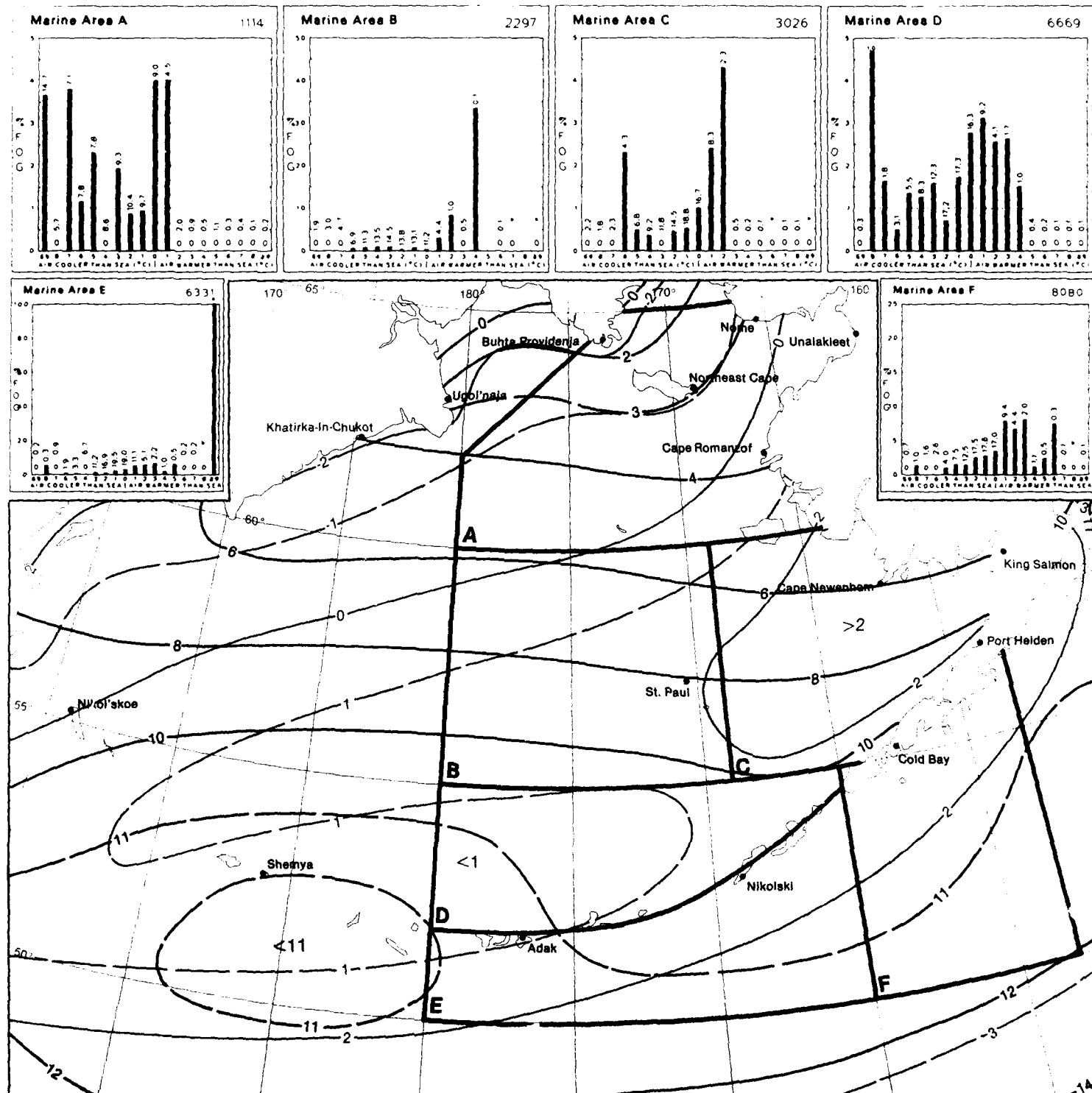
## 16 Fog and Air-Sea Temperature Difference

### Sea Surface Temperature Extremes

## 16 Fog and Air-Sea Temperature Difference

### Sea Surface Temperature Extremes

Oct



## Decembe

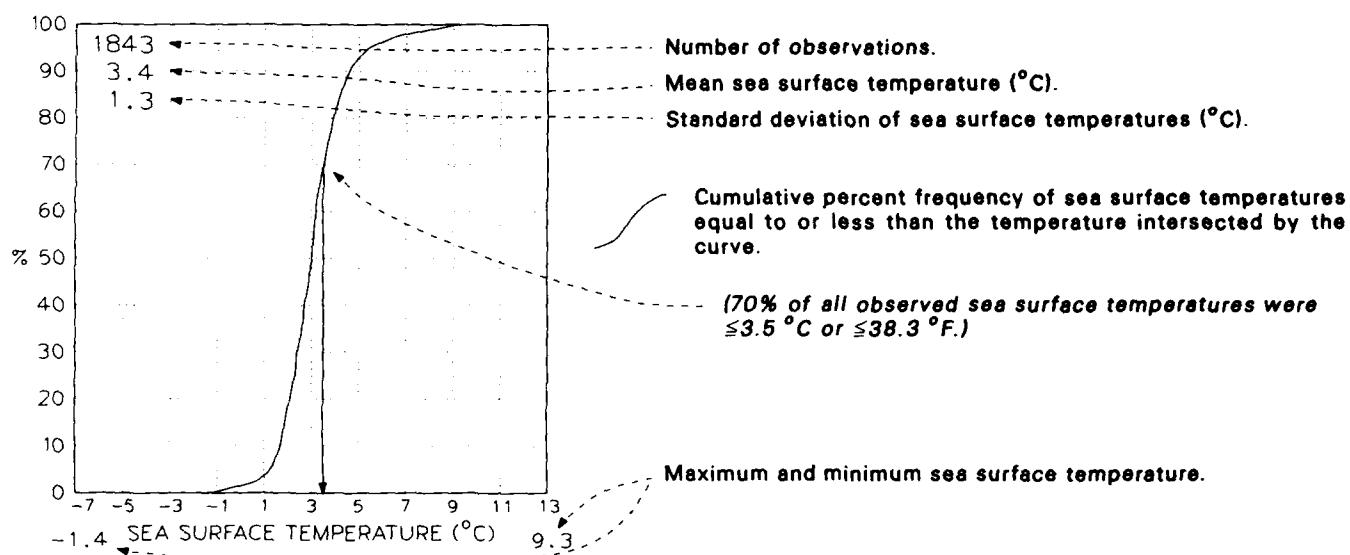
# Map 17. Mean sea surface temperature and ice concentration of any kind.

BLACK LINE – Mean sea surface temperature ( $^{\circ}\text{C}$ ).

BLUE LINE – Percent frequency of occurrence of ice of any kind.

Albers Equal-Area Conic Projection

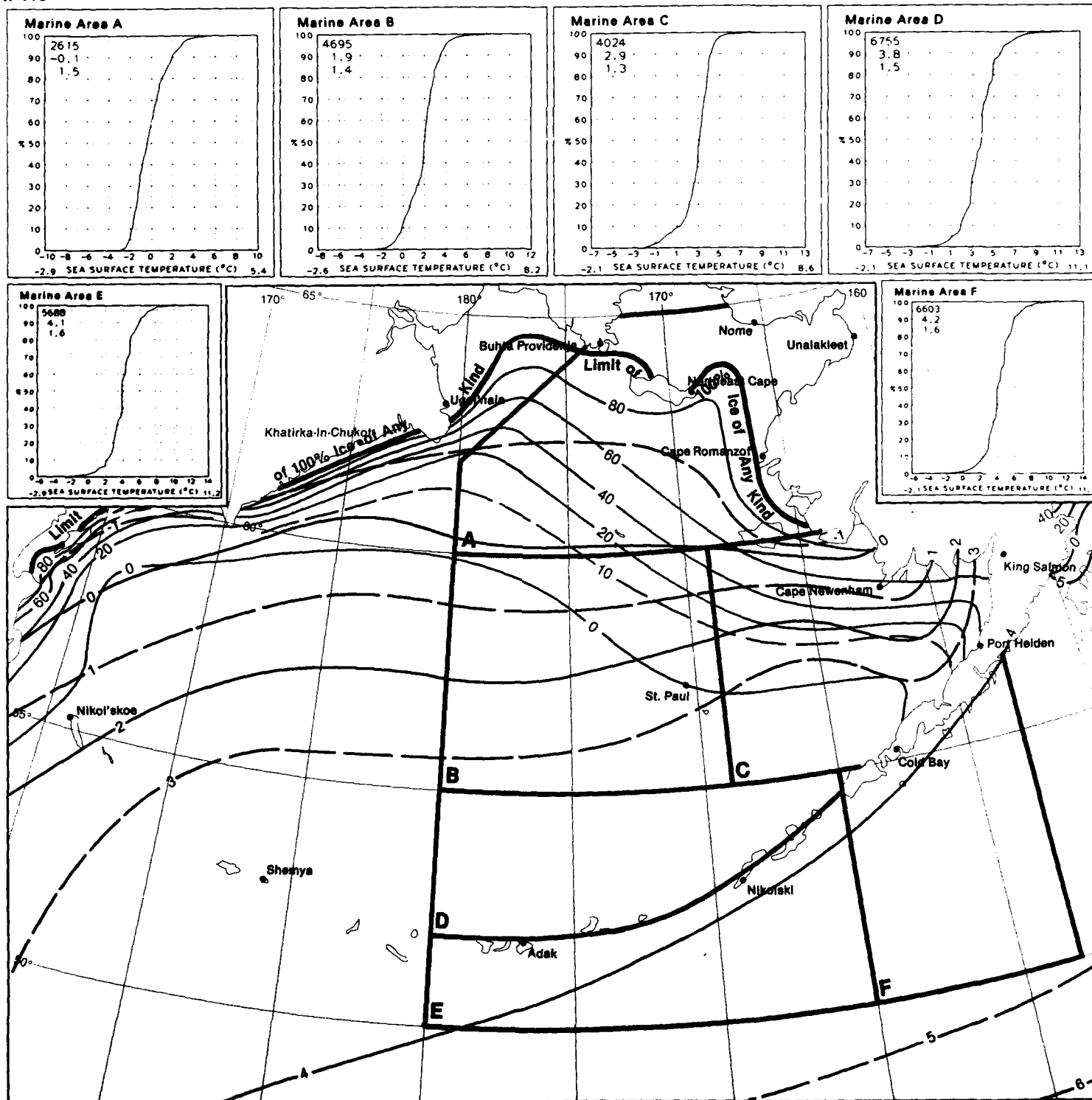
## Graphs: Sea surface temperature



The percentage of temperatures greater than a given value can be obtained from the graph by subtracting the cumulative frequency of that value from 100%. Sea surface temperatures may be used to estimate the length of time a person in ordinary clothes and life preserver may be expected to survive if washed overboard. The approximate survival time as a function of water temperature is shown in the following table (refer to the text in Section I of the atlas for information on immersion hypothermia, and to the introductory text in Section II for sea ice information).

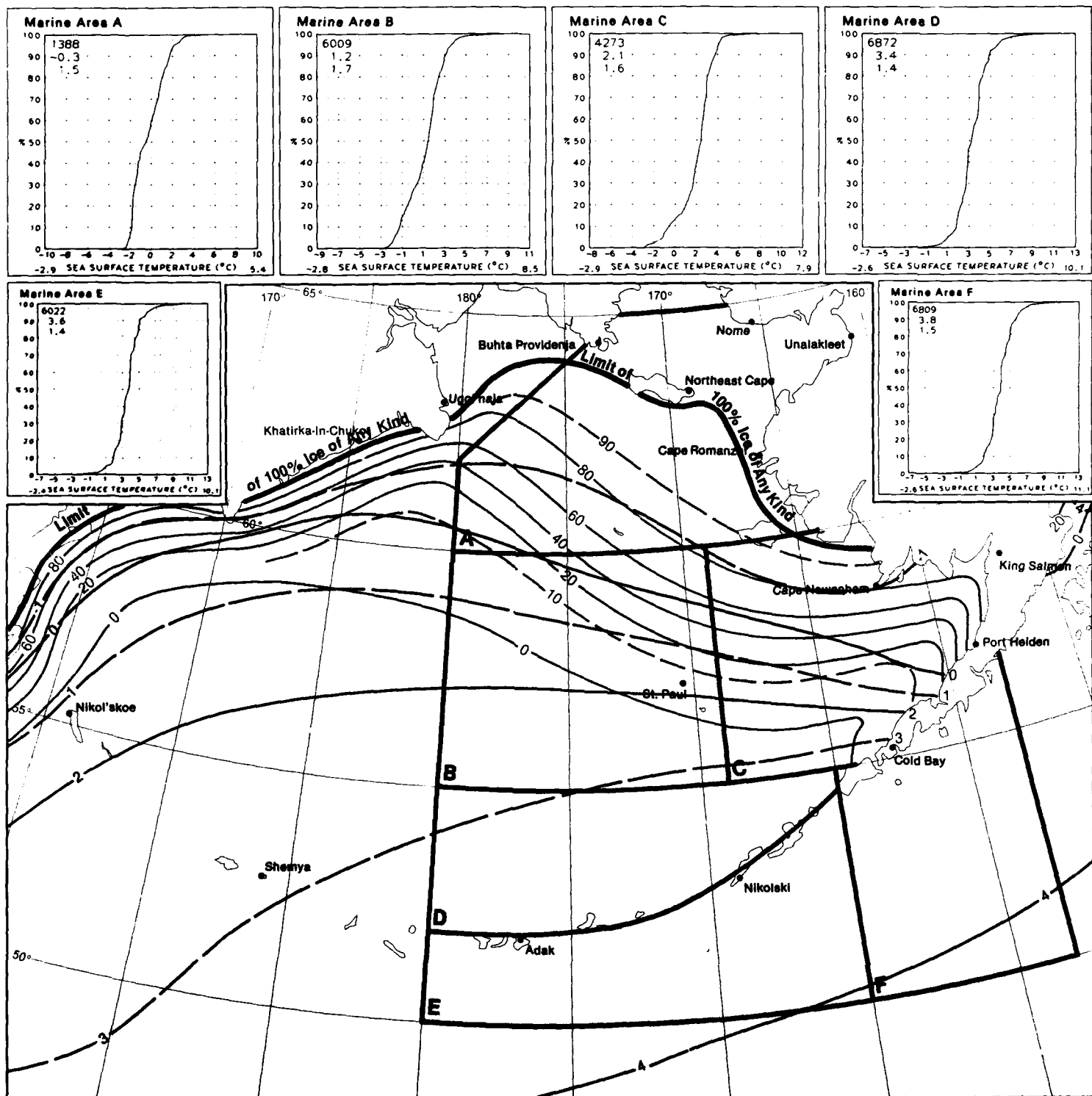
Water Temperature	Exhaustion or Unconsciousness	Expected time of Survival
0°C	15 min	15—45 min
0°—5°C	15—30 min	30—90 min
5°—10°C	30—60 min	1—3 hours
10°—15°C	1—2 hours	1—6 hours
15°—20°C	2—7 hours	2—40 hours
20°—25°C	3—12 hours	3—indefinite hrs
25°C	Indefinite	Indefinite

11-410



January

17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind

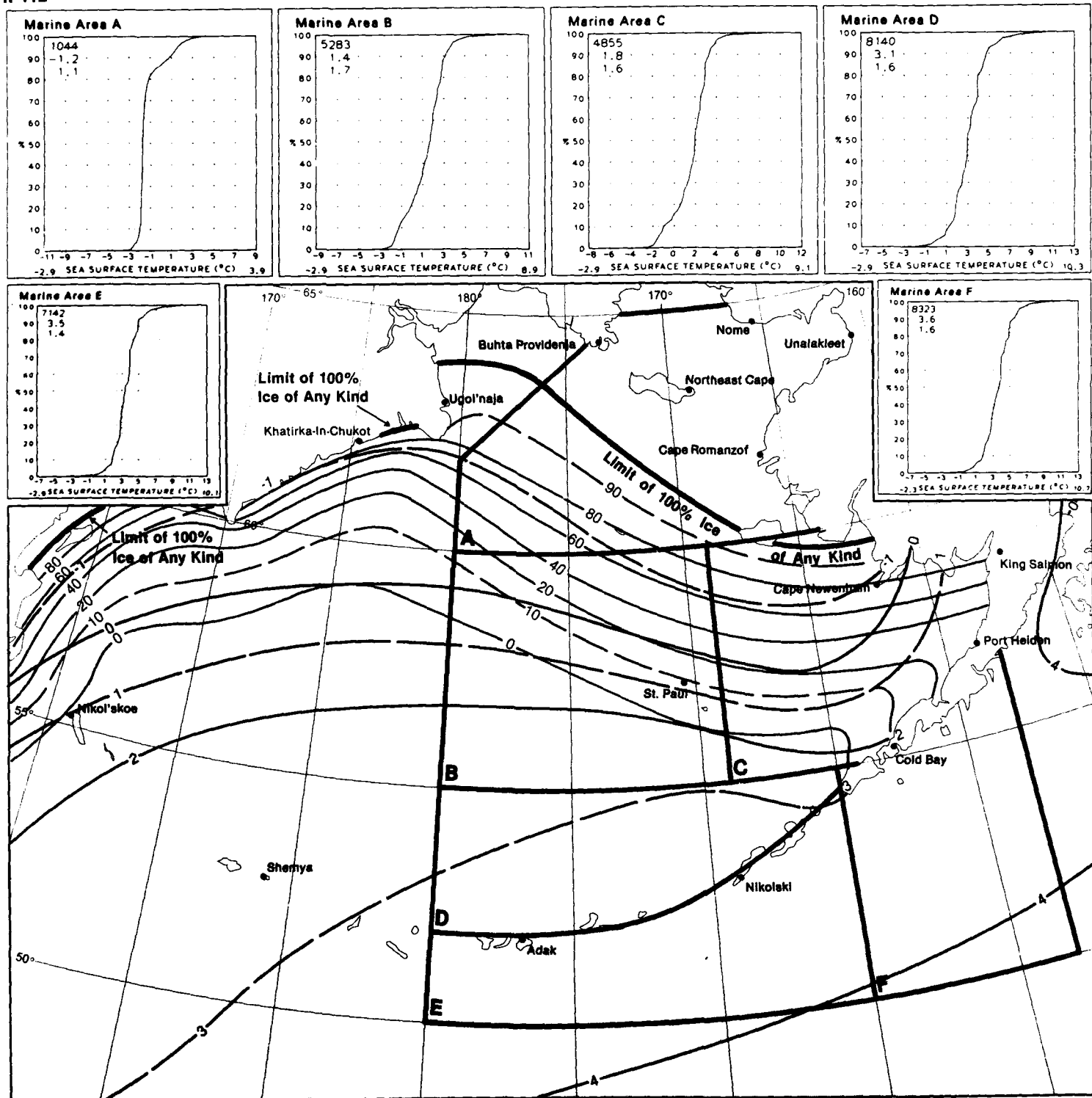


17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind

February

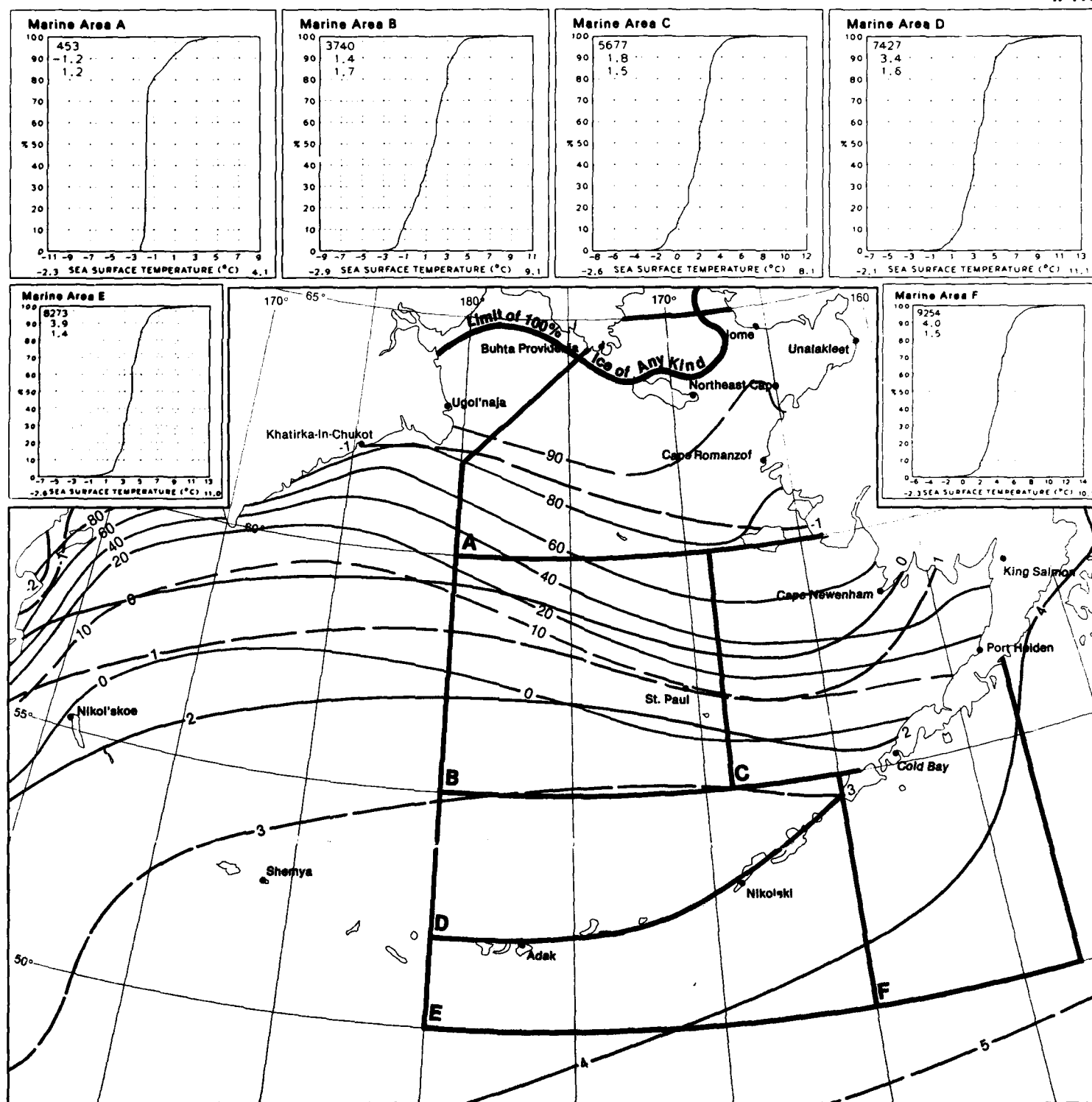


11-412



March

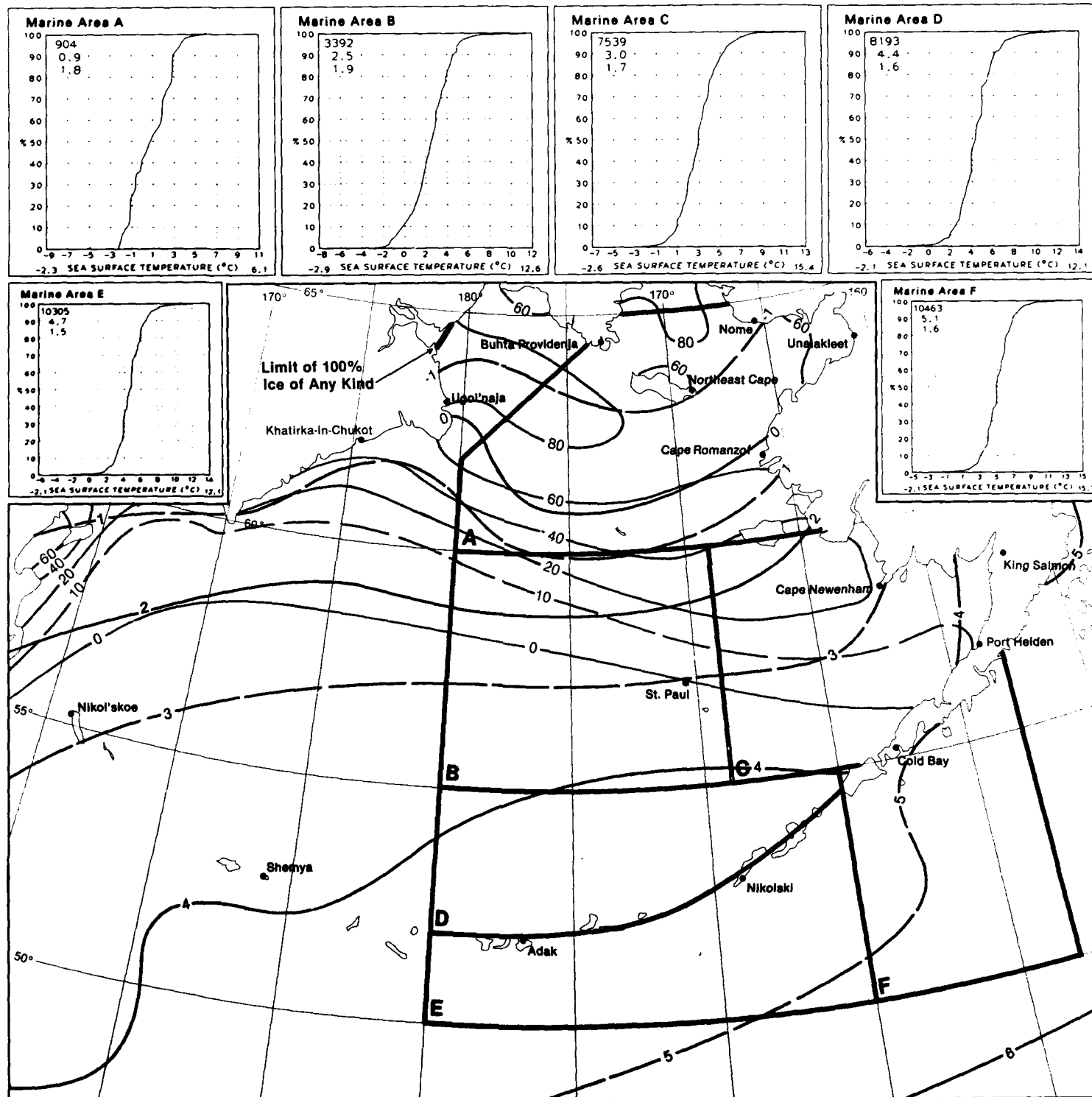
17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind



17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind

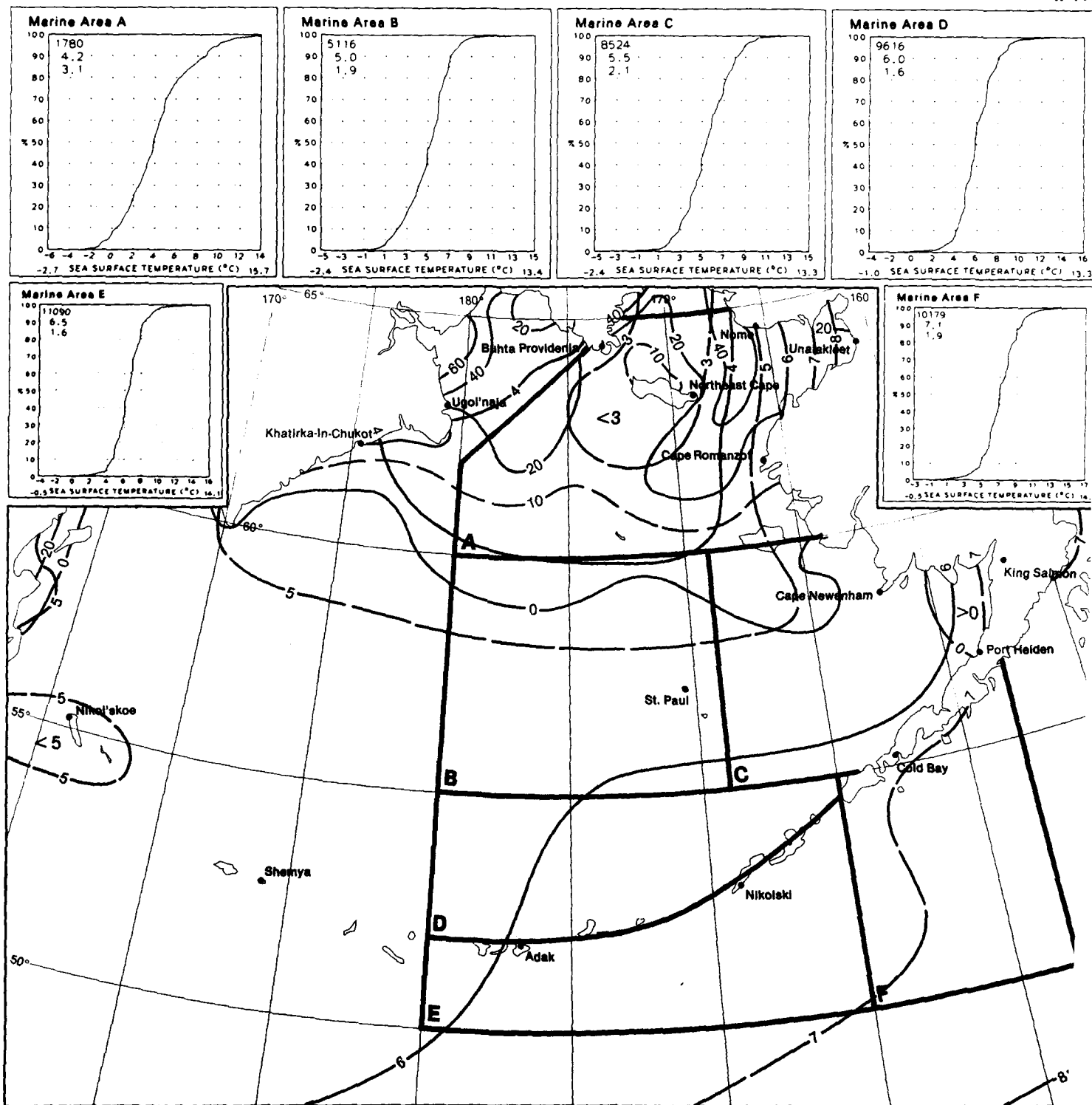
Apri

II-414



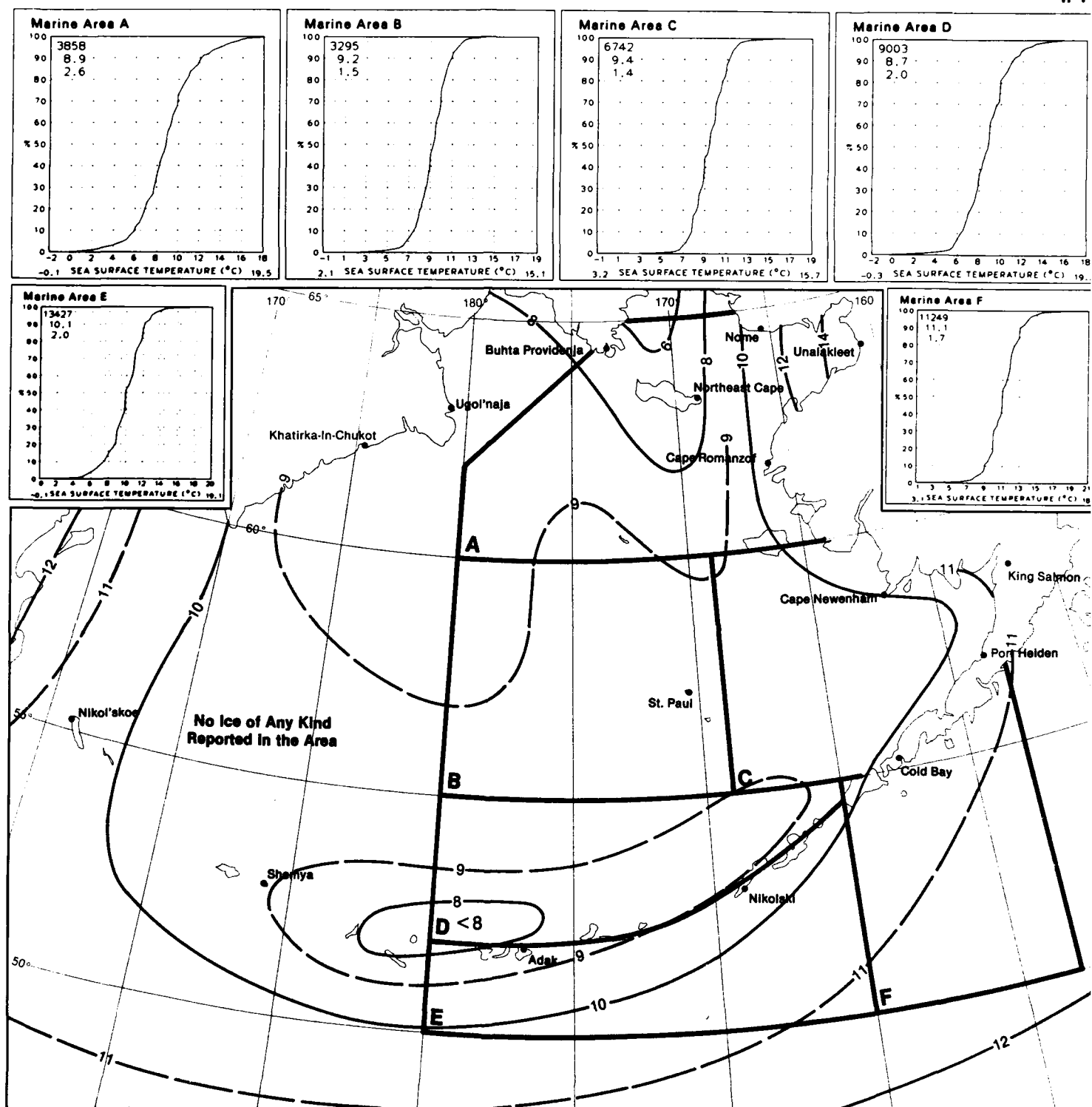
May

17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind



17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind

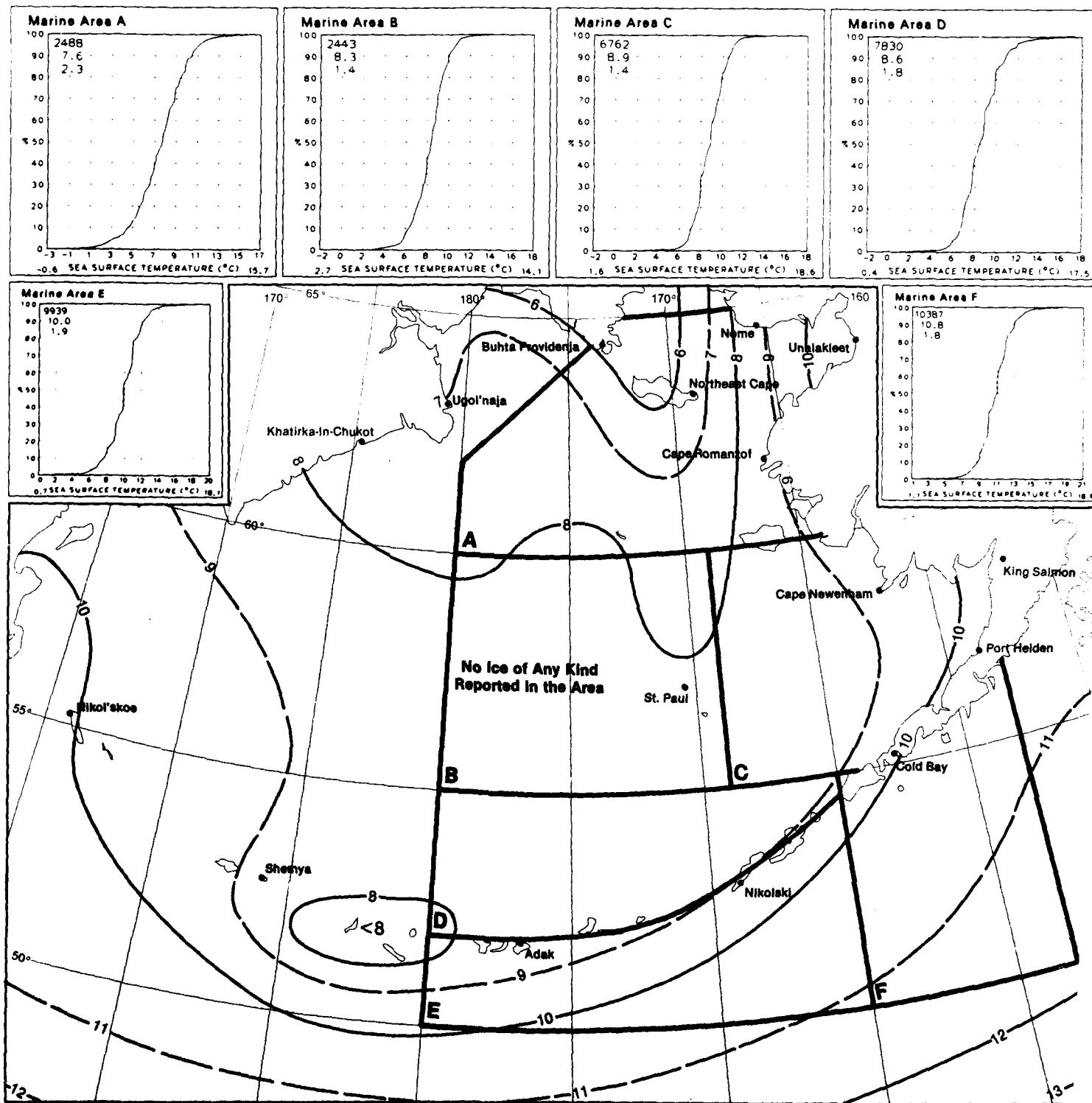
**17 Sea Surface Temperature**  
**Mean Sea Surface Temperature and Ice of Any Kir**



17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind

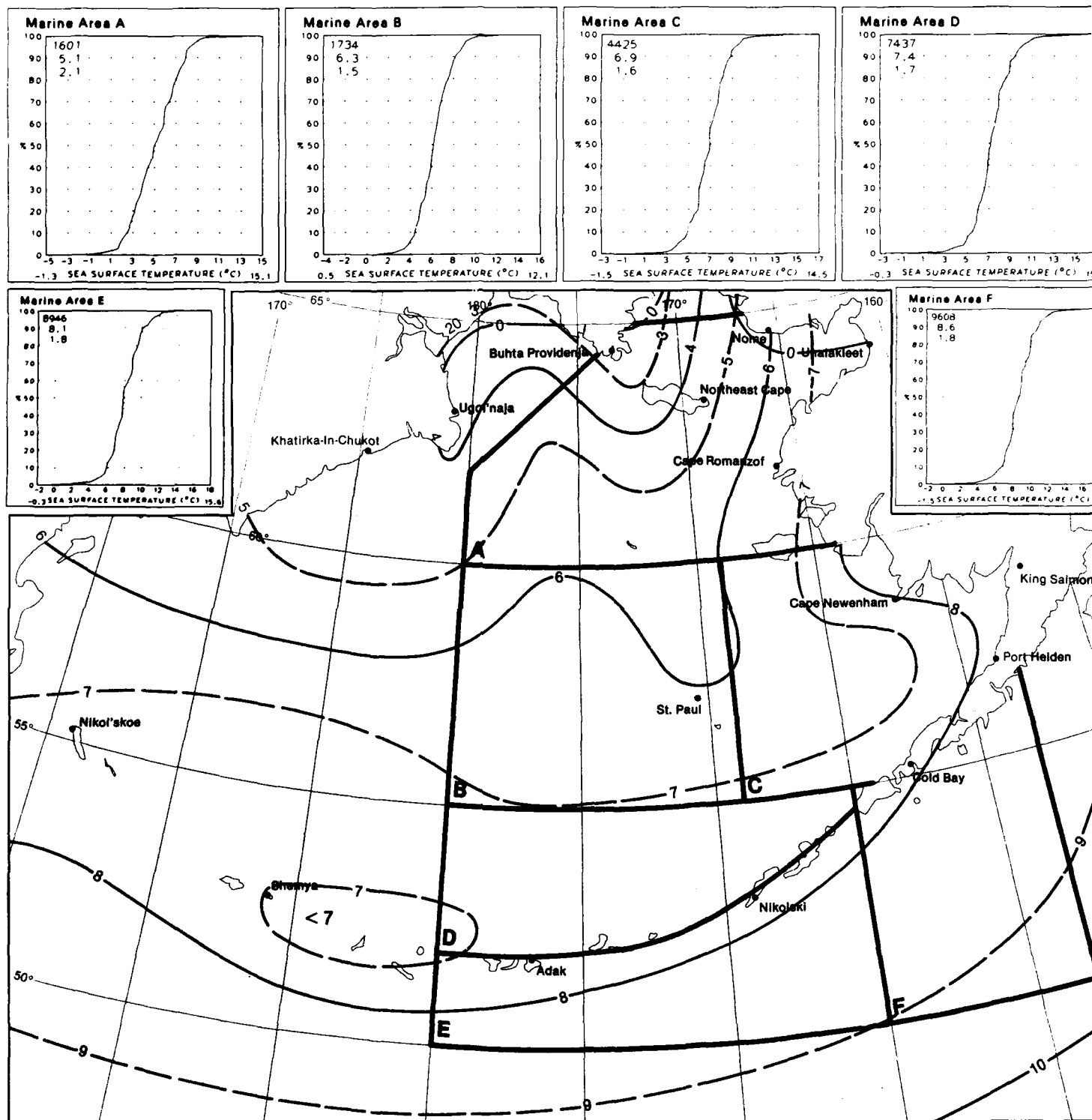
August

11-418



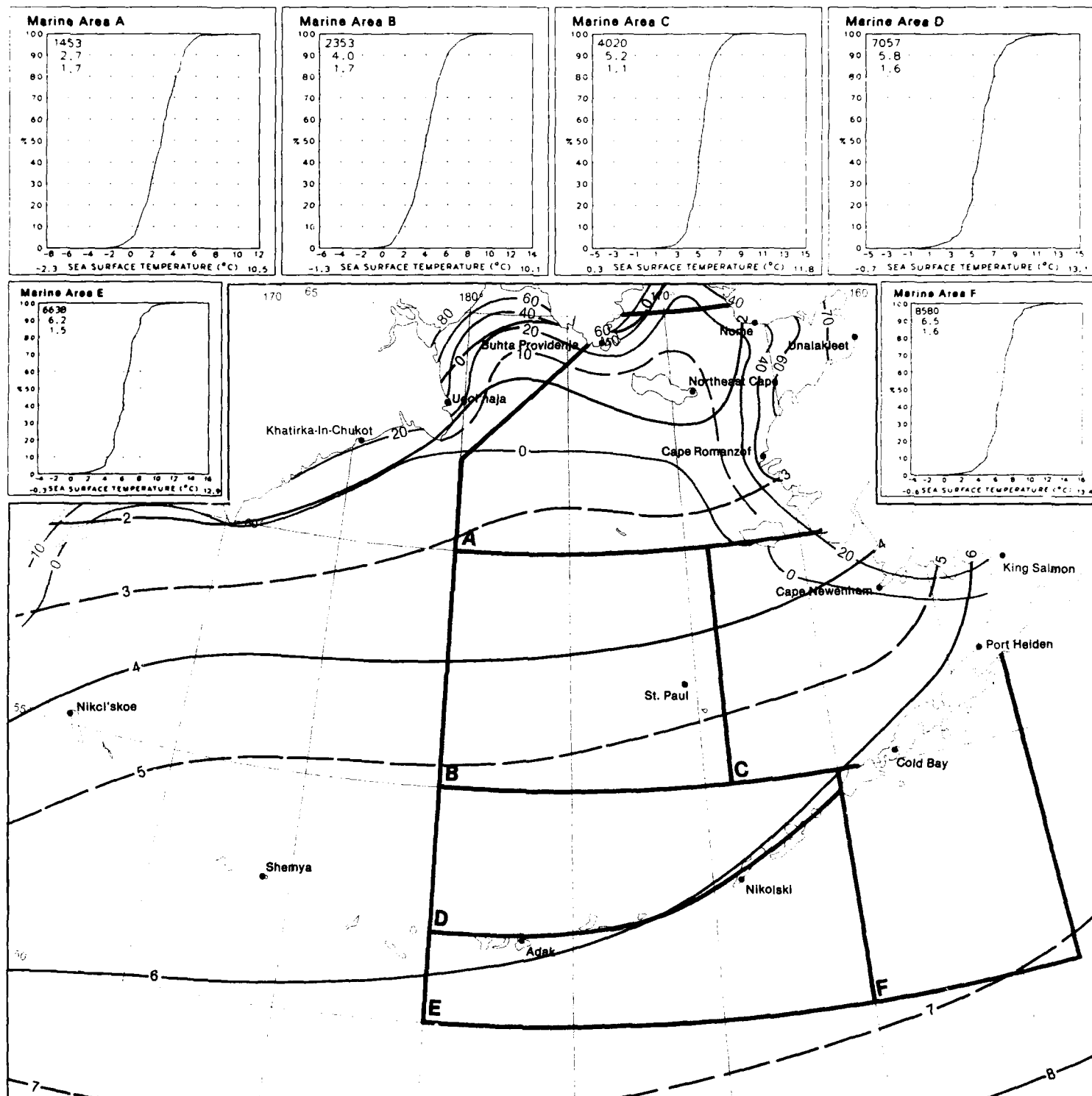
September

17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Ki



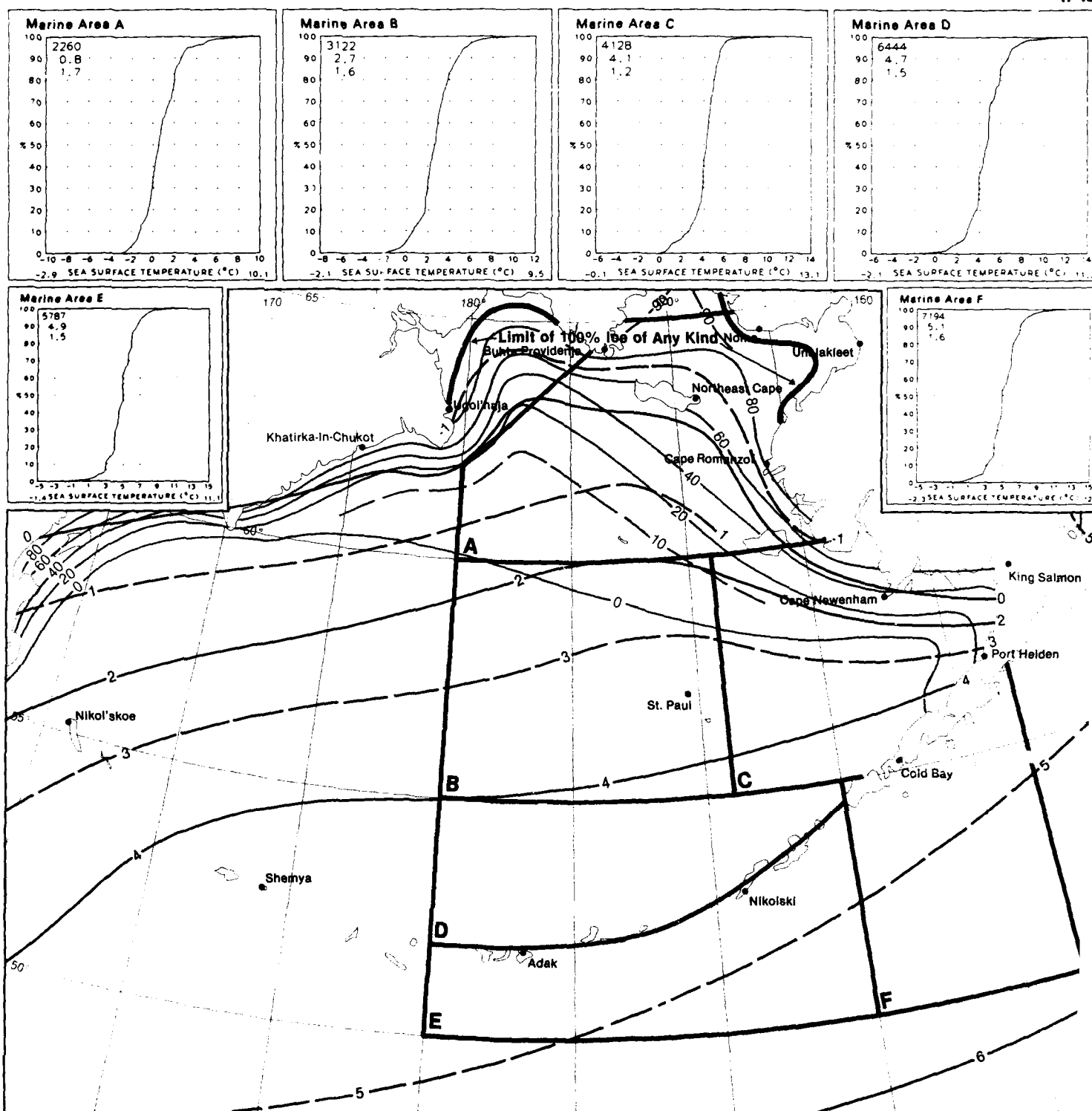


11-420



November

17 Sea Surface Temperature  
Mean Sea Surface Temperature and Ice of Any Kind



**17 Sea Surface Temperature**  
**Mean Sea Surface Temperature and Ice of Any Kind**

Deceml

II-422

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## Map 18. Wave height $\leq 3$ feet and ice concentration $\geq 5/10$ ths

BLACK LINE – Percent frequency of wave height  $\leq 3$  feet (1 meter).

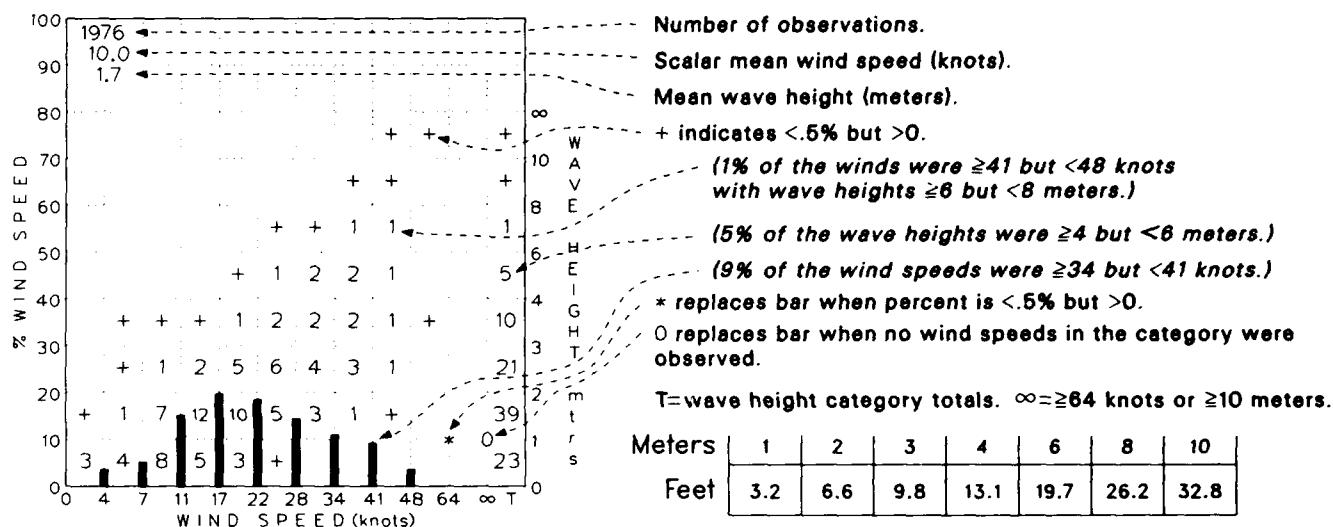
BLUE LINE – Percent frequency of ice concentration  $\geq 5/10$ ths.

Albers Equal-Area Conic Projection

### Graphs: Wave height/wind speed

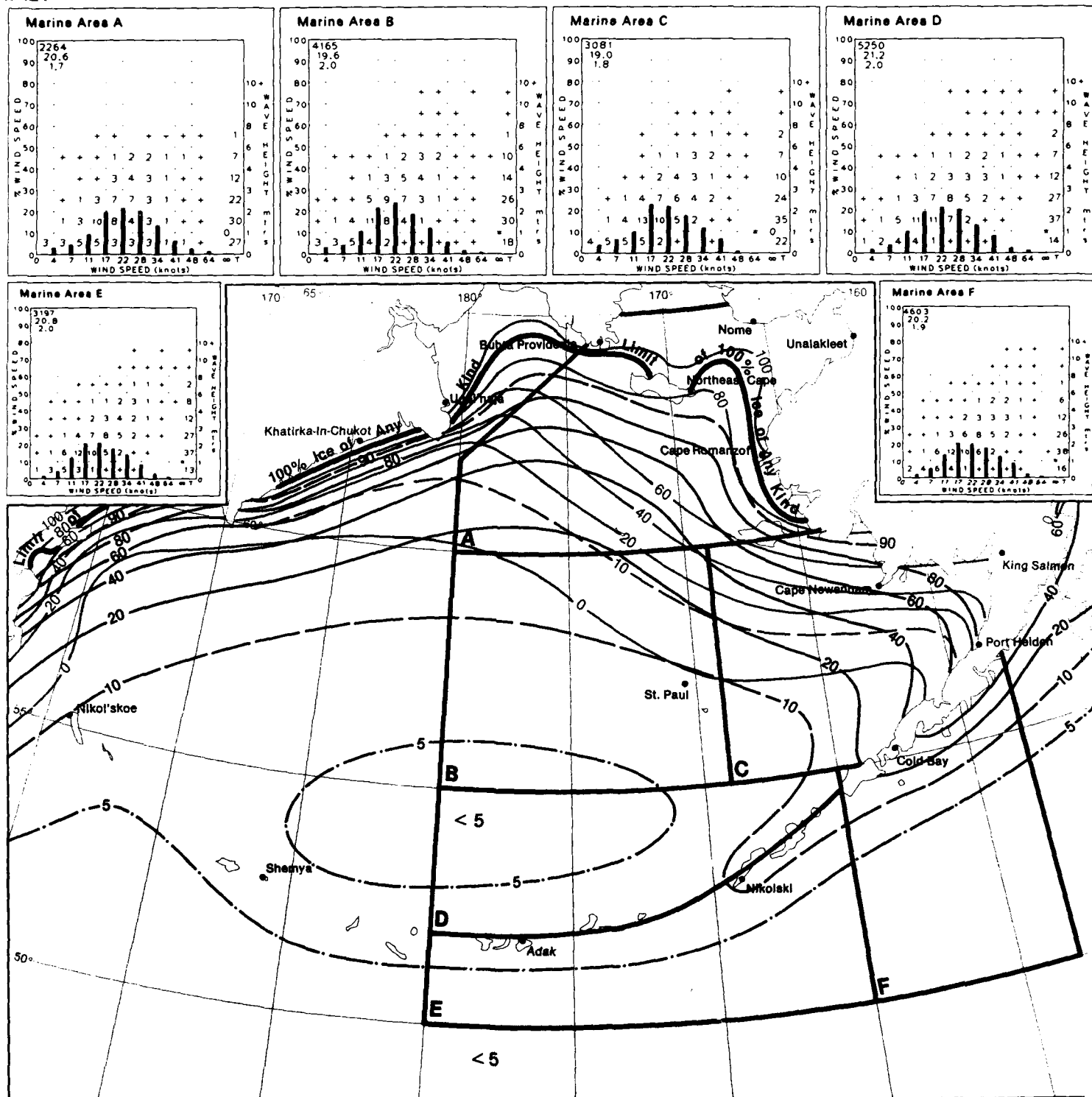
Wind speed frequency: Bars are percentages for each wind speed category.

Wave height frequency: Numbers are percentages of wave height for various wind speeds.



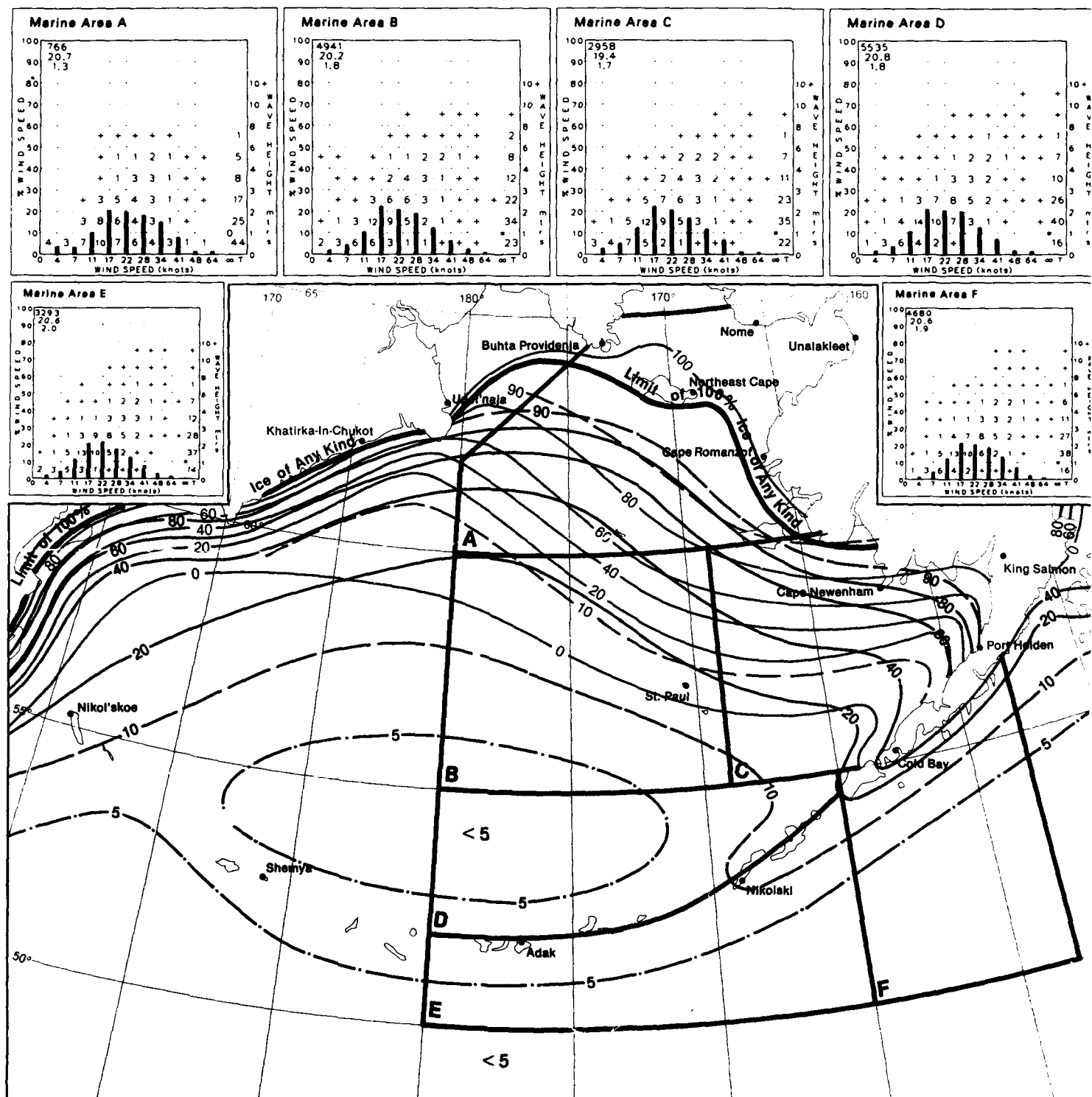
Wave heights have been recorded in a consistent quantitative code only since the late 1940's. The reluctance of many observers to take wave observations in the earlier years and the difficulty in estimating waves, especially in confused seas, make wave observations one of the least commonly observed elements. The observations are also subject to biases in wave characteristics. A correction factor of approximately 10% was suggested by Hogben and Lumb (1967) and has been verified by preliminary work at NCDC where Quayle (1980) found that generally the heights are too low, the periods too short, and sea-swell discrimination poor. The data in this study have not been adjusted for the suspected biases. The marine observations were processed through quality control procedure where an internal check was made between wind speed and sea height. The sea and swell data were then arrayed and suspicious outliers deleted. The higher of the sea wave or swell was selected for summarization. If the heights were equal, the wave with the longer period was selected.

Wave height isopleth presentations in Sets 18 and 19 are for a generally nonhazardous sea condition; i.e., wave heights less than 3 feet and 8 feet, respectively. Isopleth presentations in Set 20 define much more hazardous sea conditions; i.e., wave heights equal to or greater than 12 and 20 feet. Refer to the texts of Sets 14 and 18-21 for complete information on waves, and to the introductory text of Section II for sea ice information.



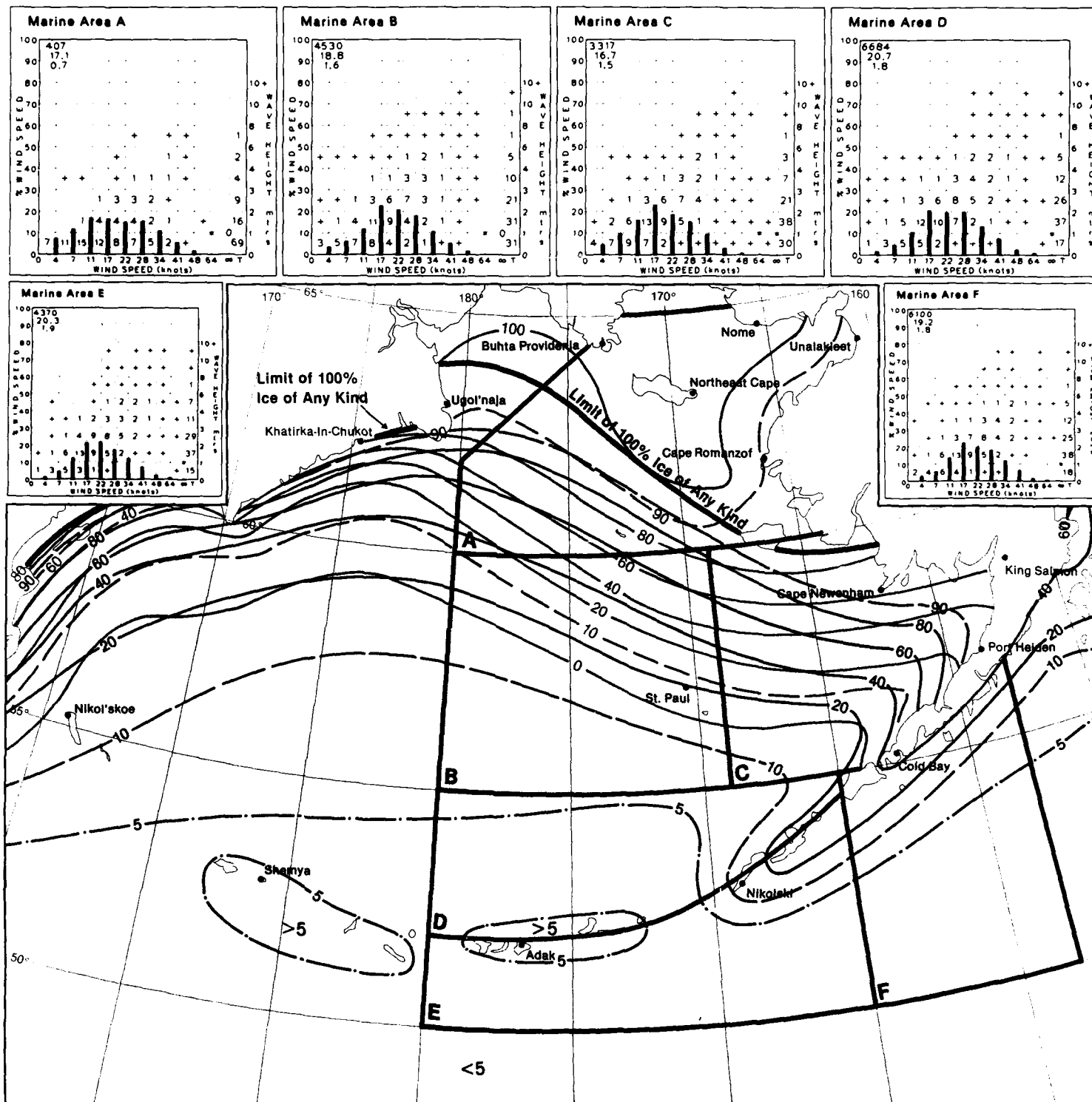
January

18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5/10$ ft



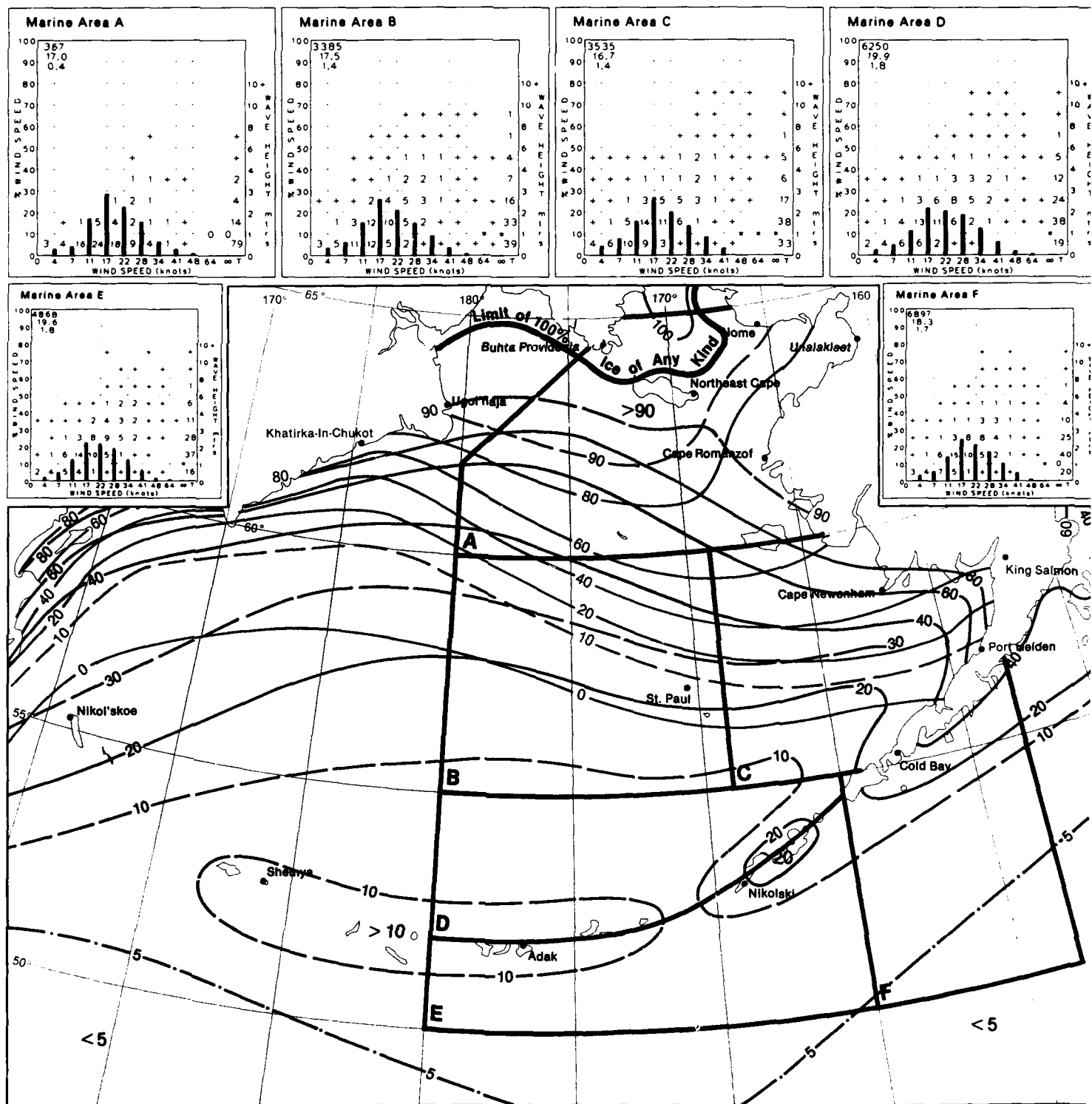
18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5/10$ ths

Februa



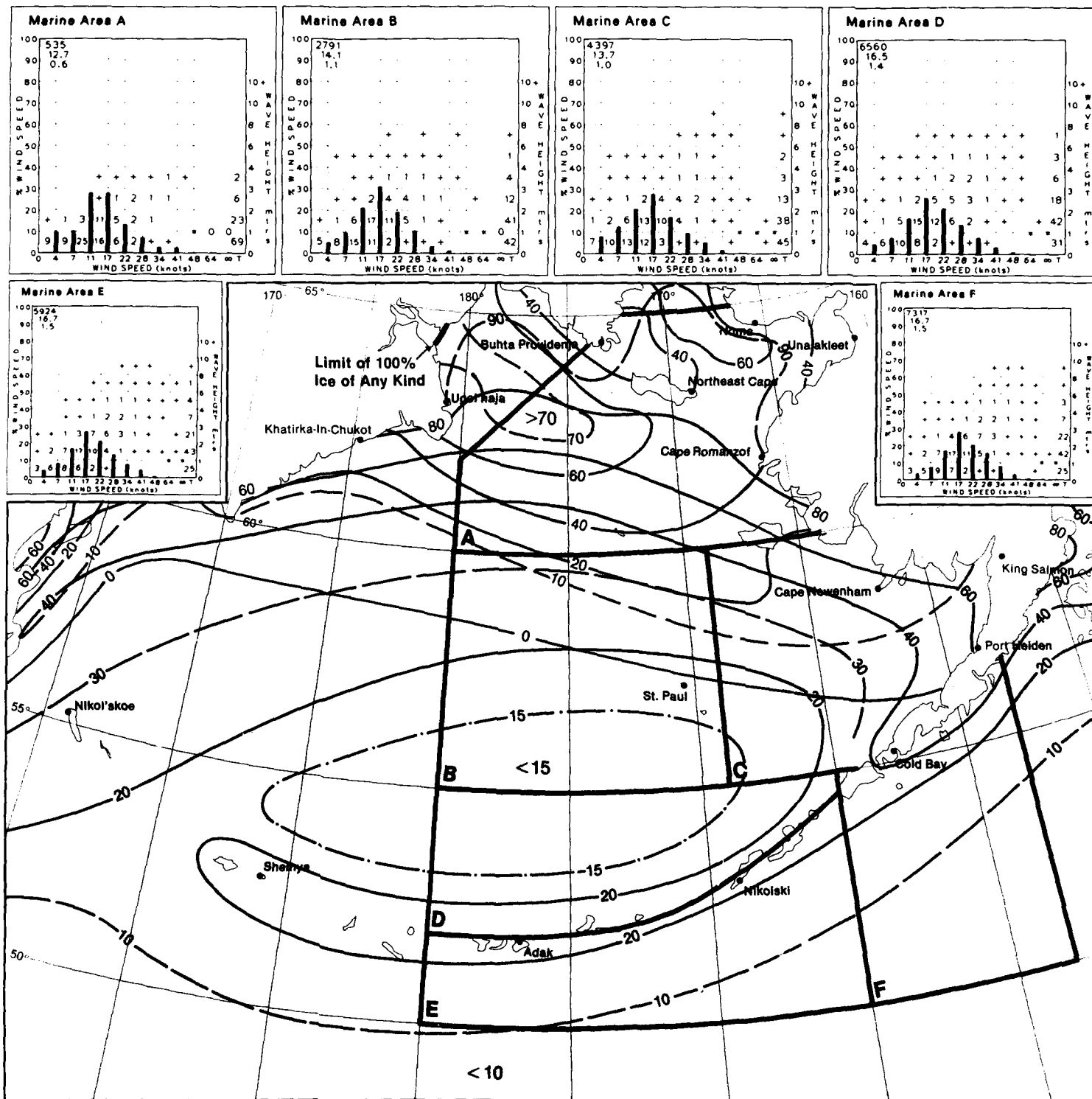
March

18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5/10$ ft



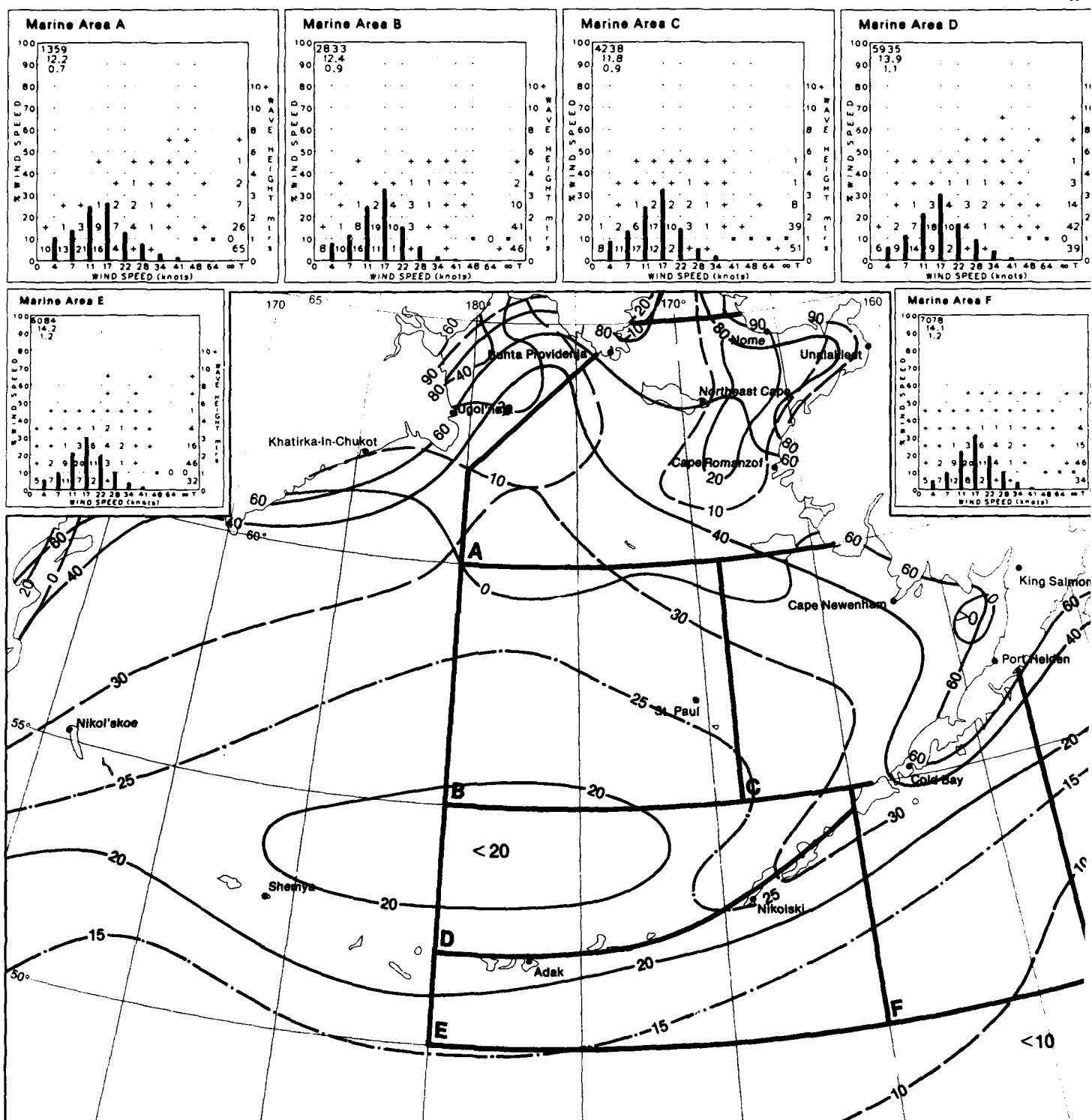
18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5/10$ ths



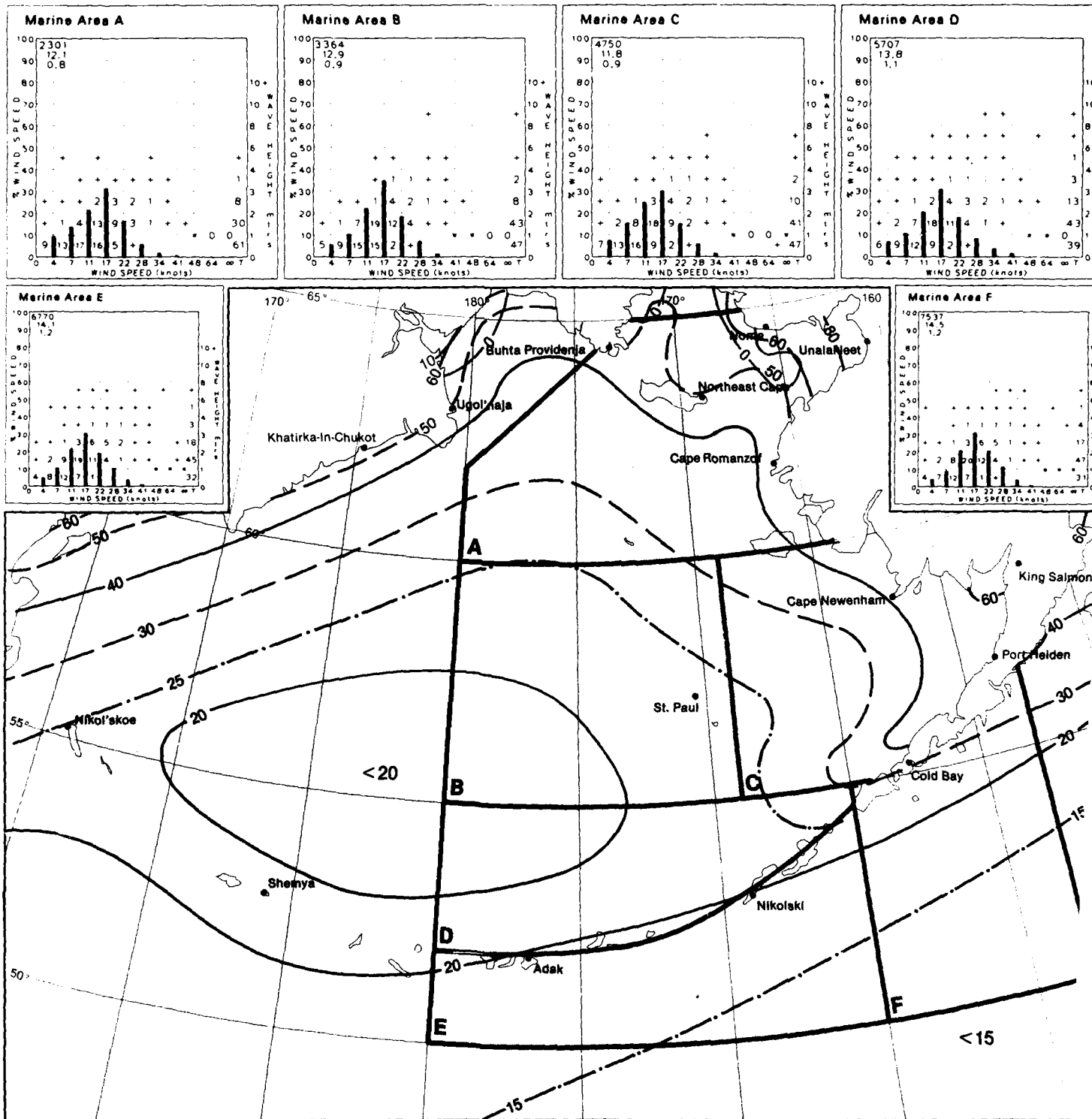


May

18 Wave Height and Wind Speed  
Wave Height  $\geq 3$  Feet and Ice  $\geq 5/10$ th

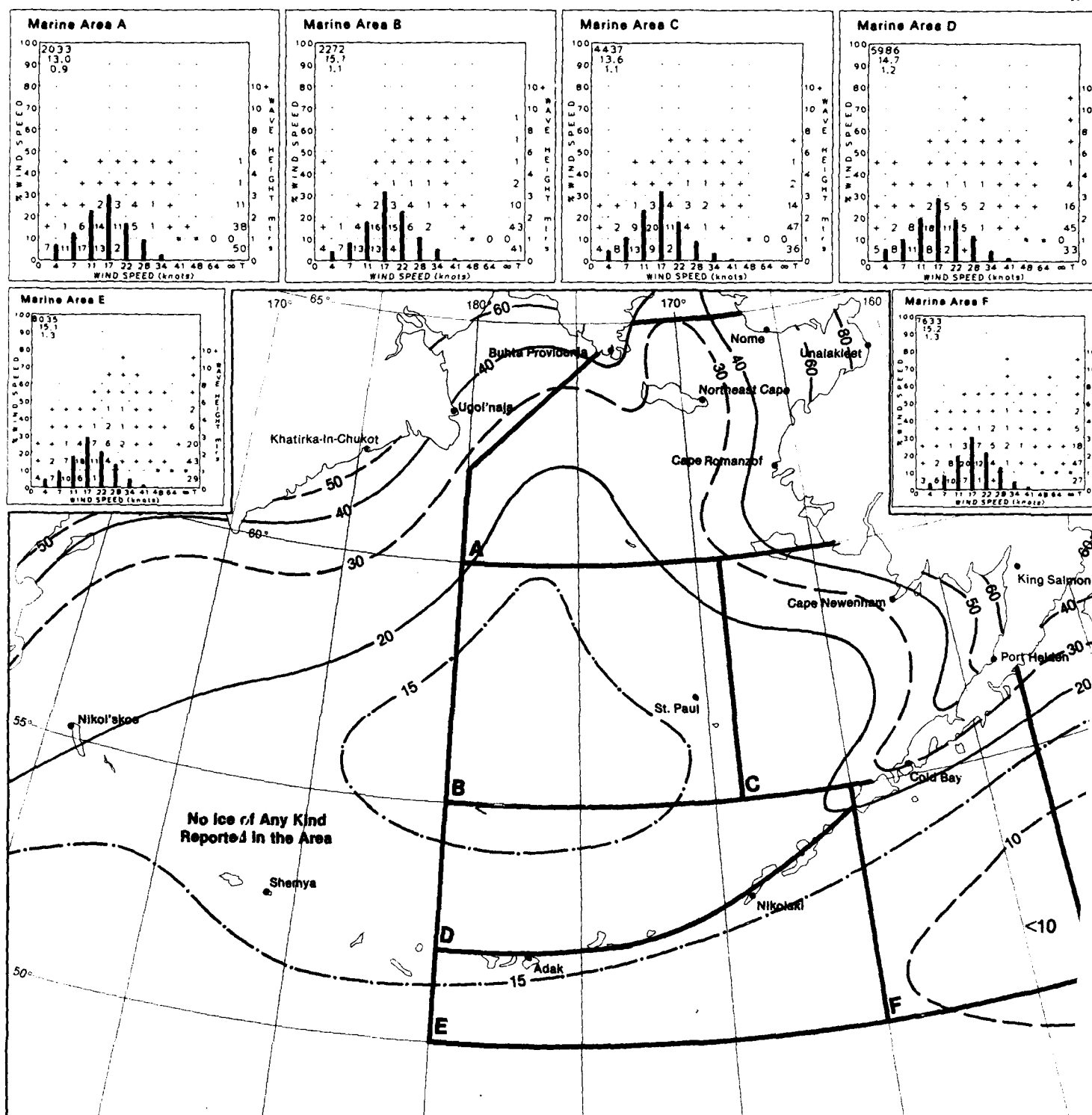


18 Wave Height and Wind Speed  
Wave Height  $\geq 3$  Feet and Ice  $\geq 5/10$ ths



July

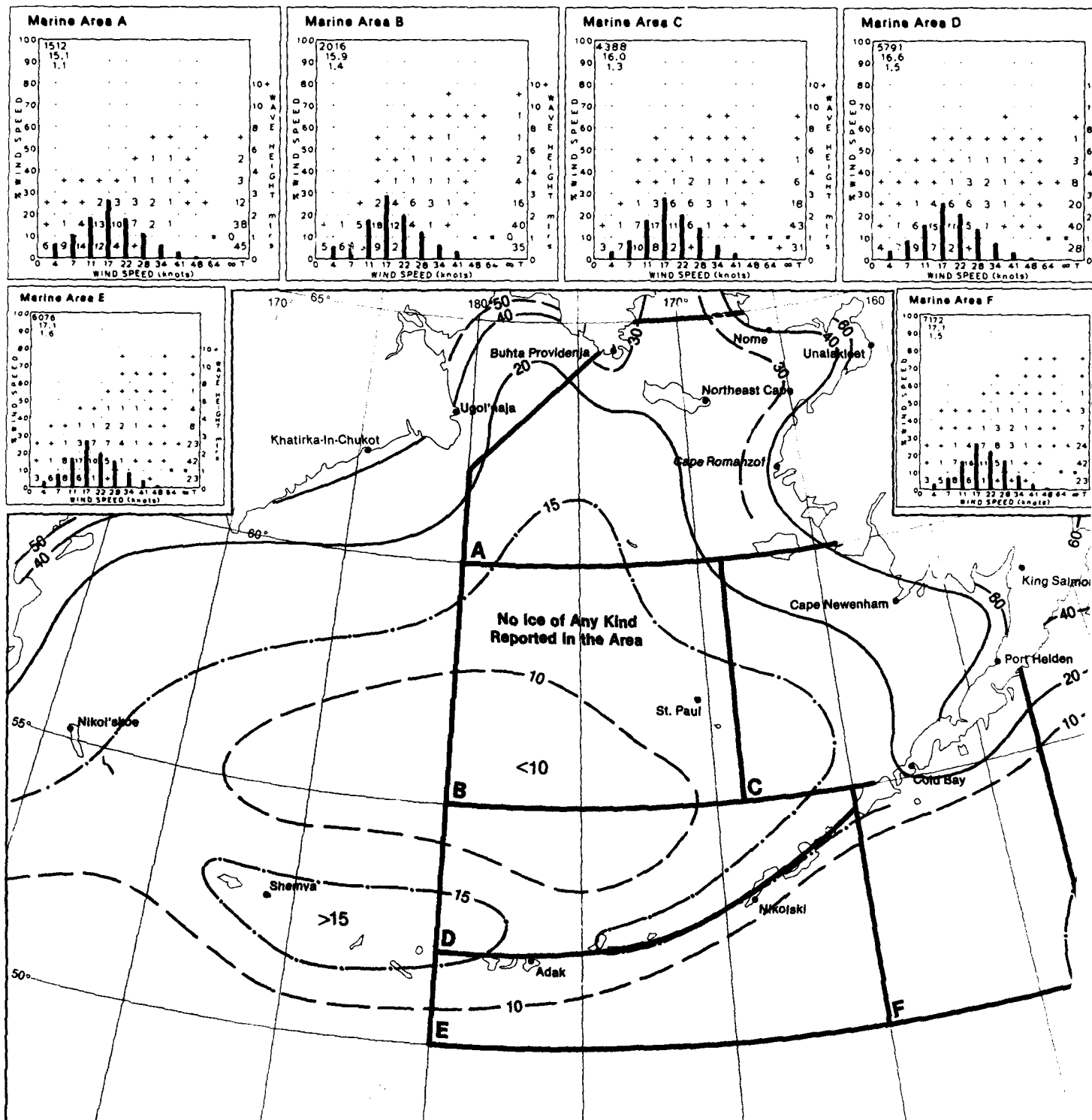
18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5'$



18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5/10$ ths

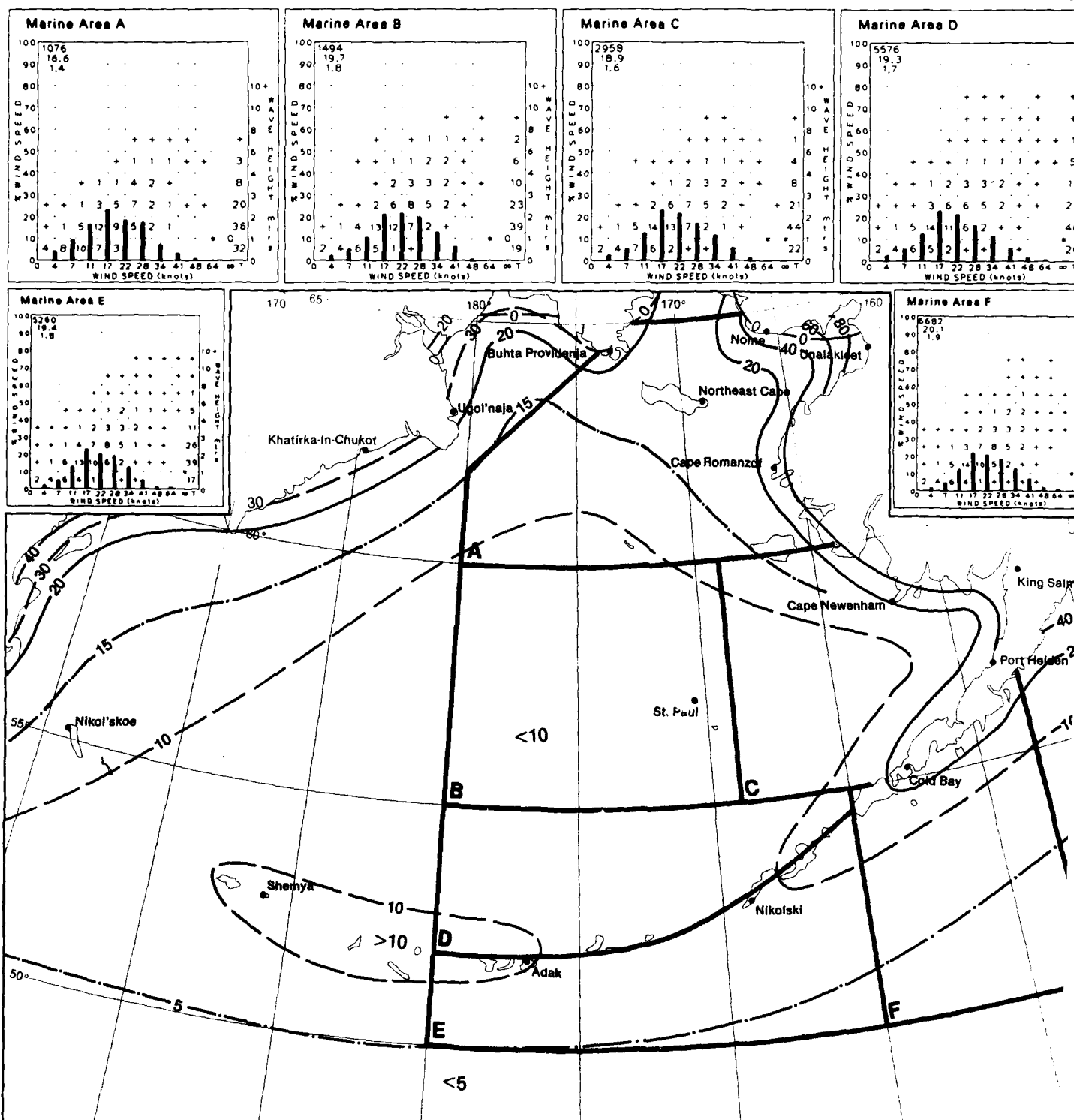
Au

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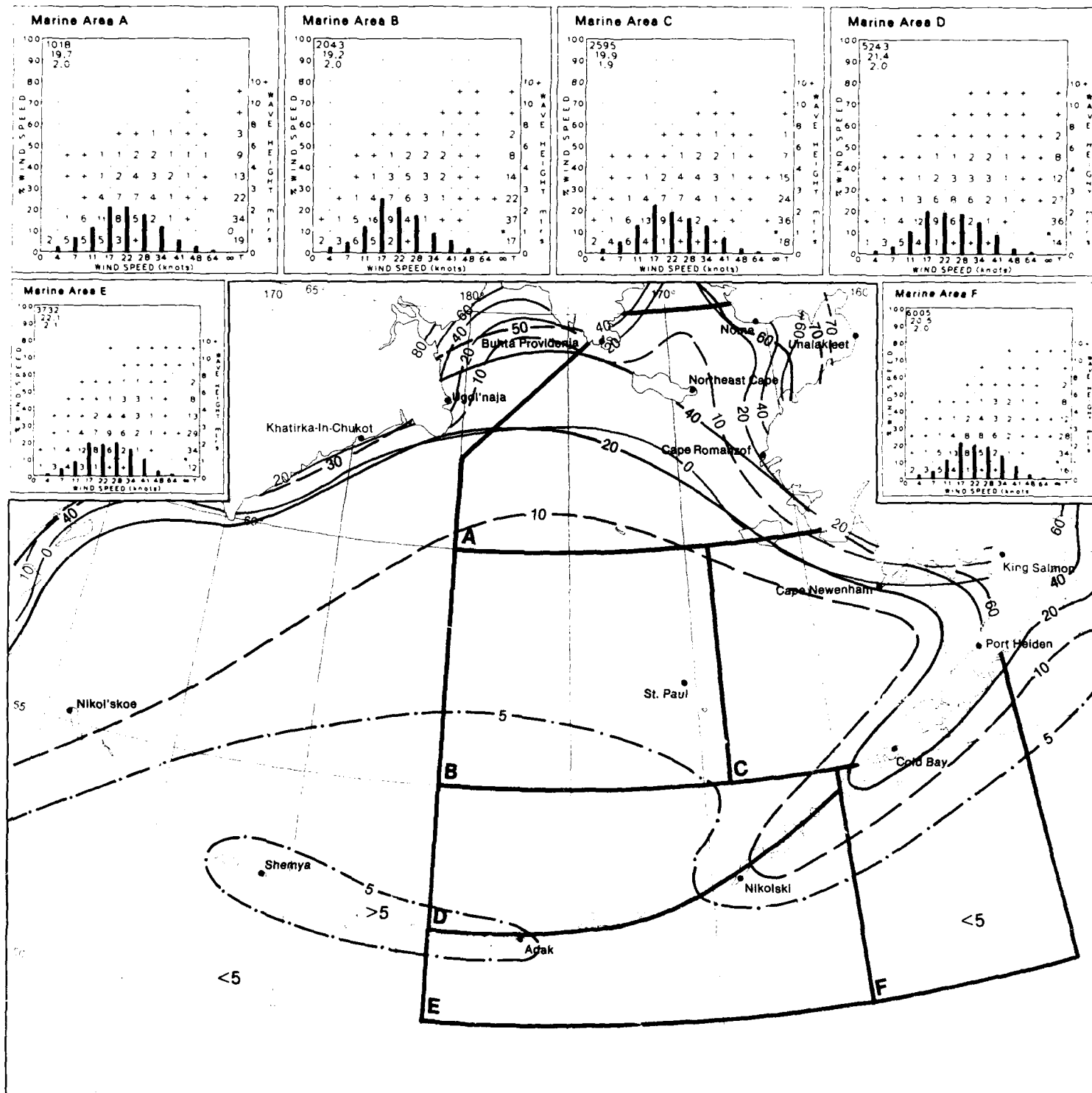
September

18 Wave Height and Wind Speed  
Wave Height  $\geq 3$  Feet and Ice  $\geq 5/$



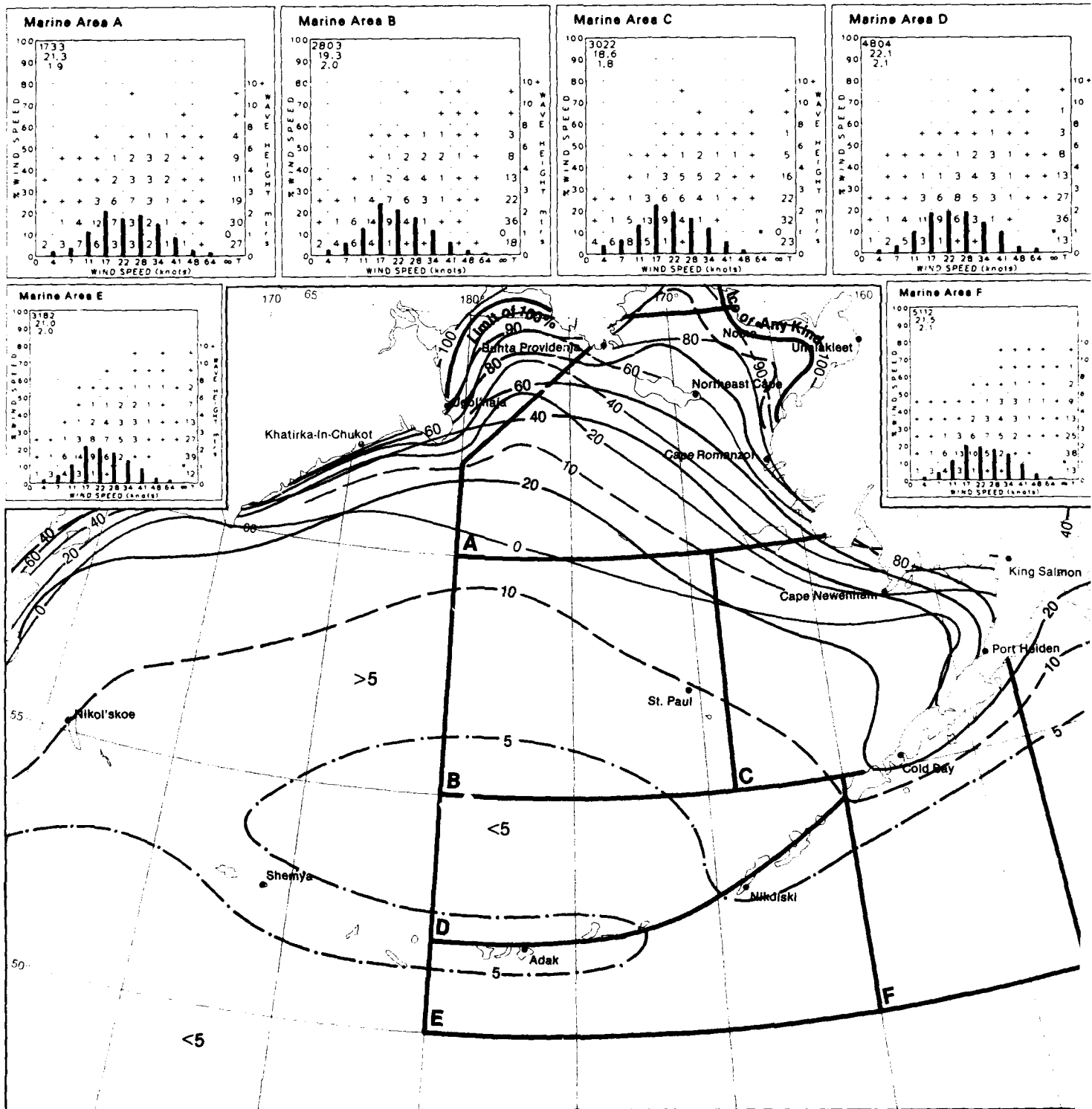
18 Wave Height and Wind Speed  
Wave Height  $\geq 3$  Feet and Ice  $\geq 5/10$ ths

Oc



November

18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\leq 5/10$ th



18 Wave Height and Wind Speed  
Wave Height  $\leq 3$  Feet and Ice  $\geq 5/10$ ths

Decem



II-436

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## Map 19. Wave height <8 feet and ice thickness $\geq 8$ feet

BLACK LINE – Percent frequency of wave height <8 feet (2.5 meters).

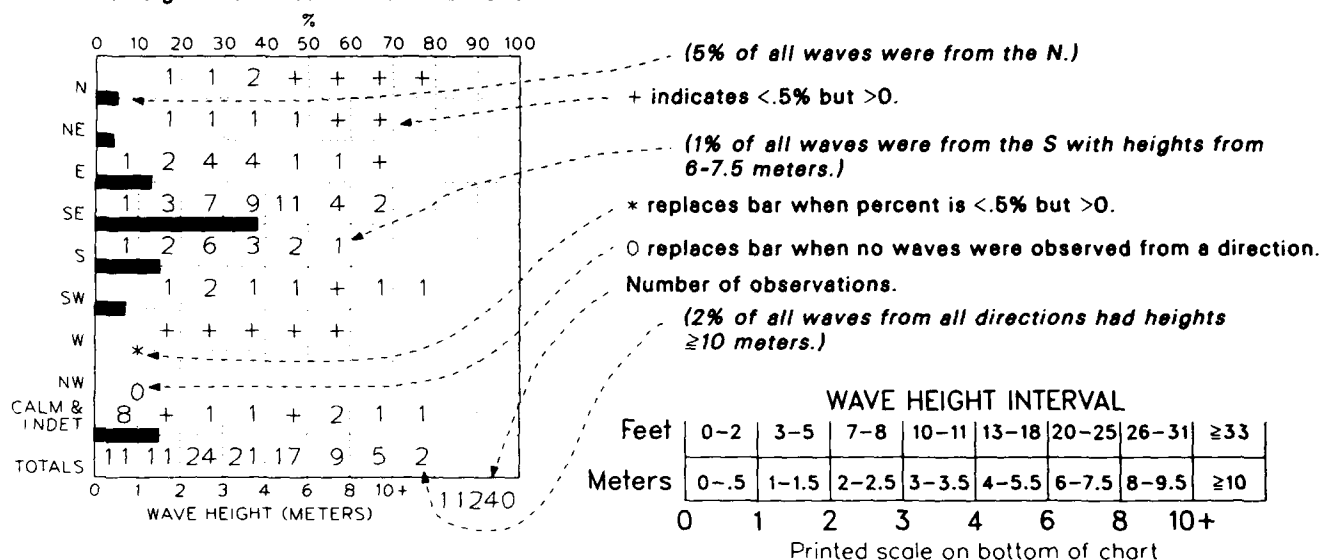
BLUE LINE – Percent frequency of ice thickness  $\geq 8$  feet (multi-year ice).

Albers Equal-Area Conic Projection

### Graphs: Wave height/direction

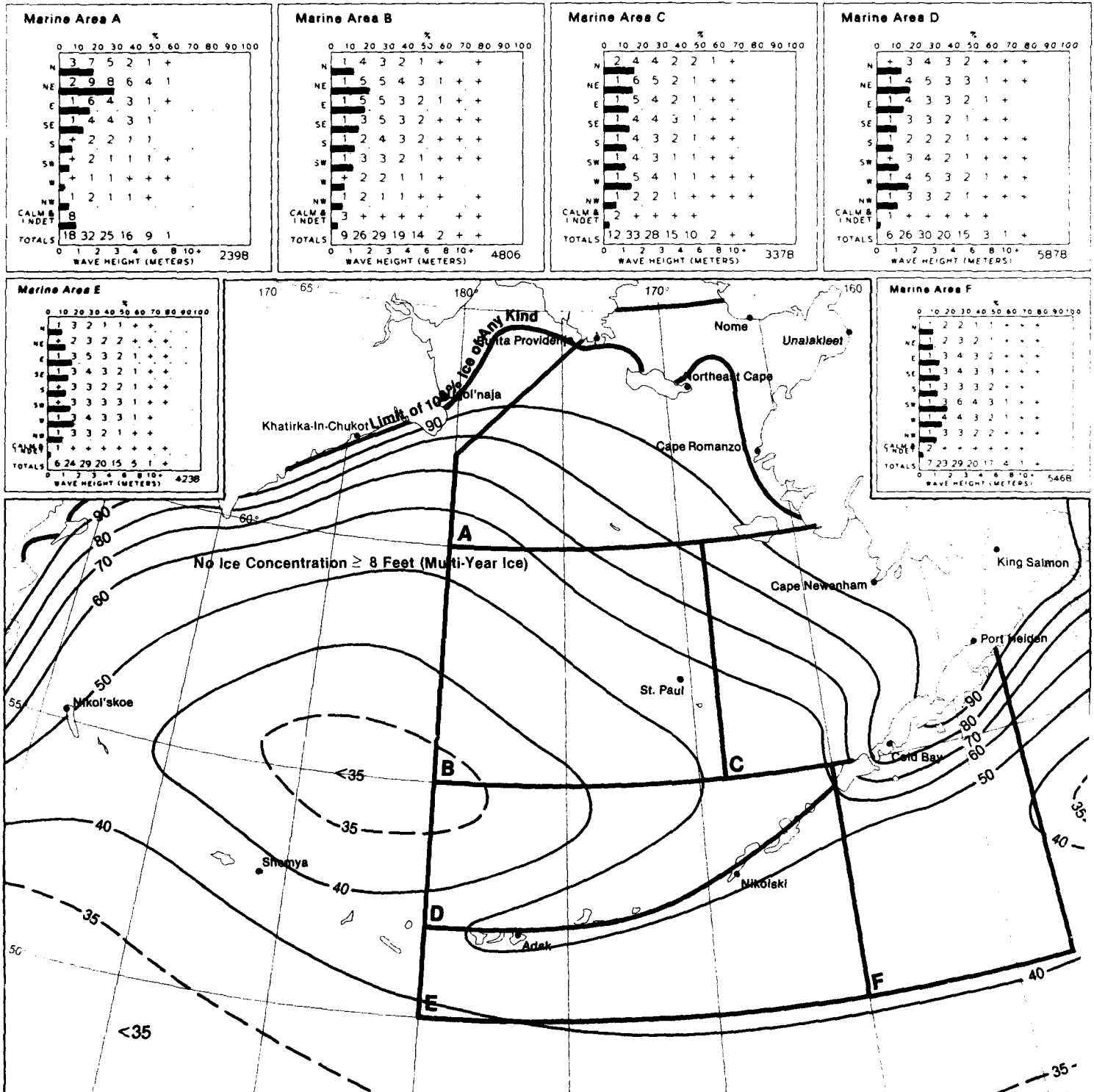
Direction frequency (top scale): Bars represent percent frequency of waves from each direction.

Height frequency (bottom scale): Printed figures represent percent frequency of wave heights observed from each direction.



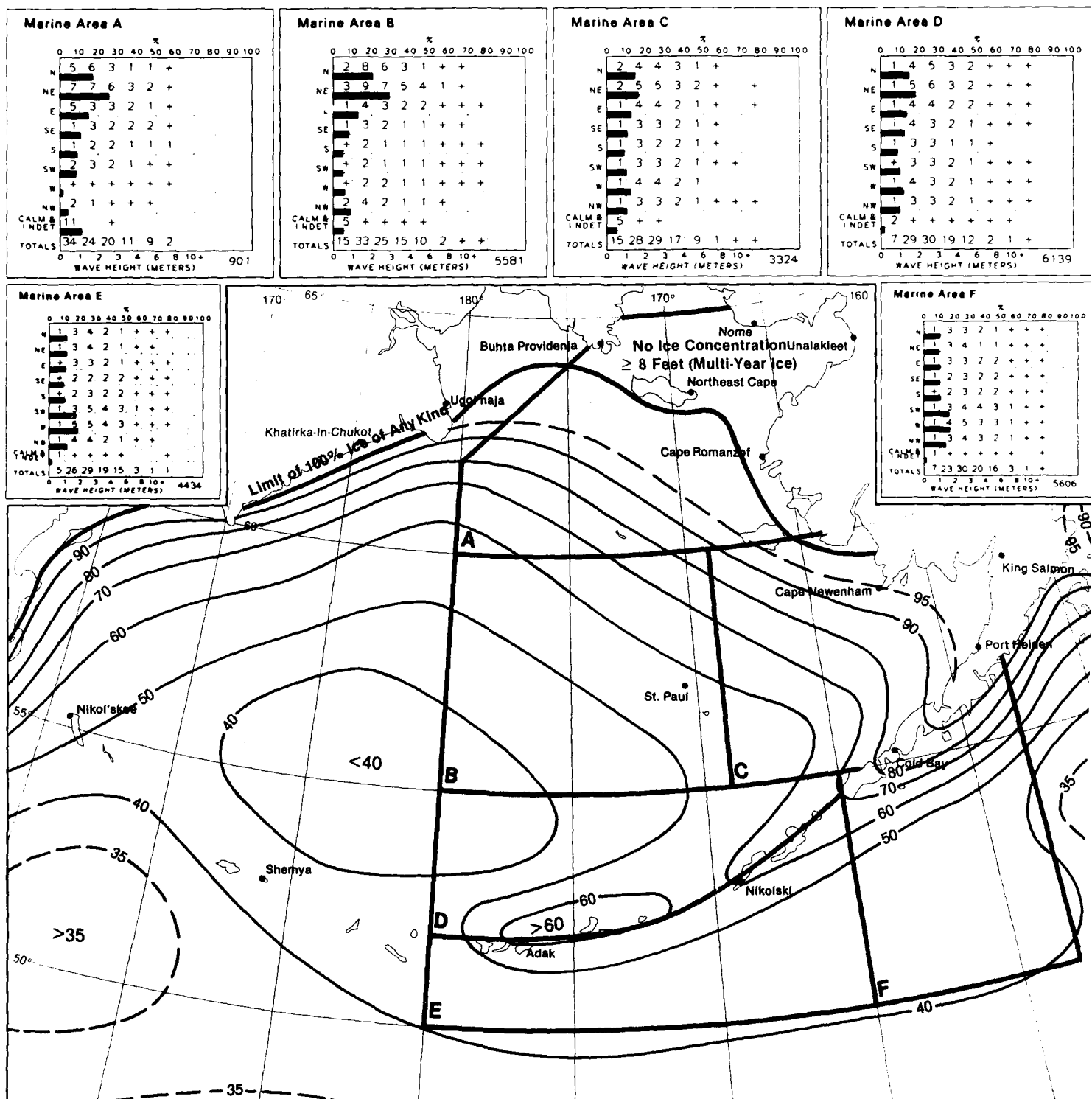
The observer aboard ship determines and records the period and height of wind waves (sea); and the direction, period, and height of swell waves. Sea waves are waves raised by the local wind and are assumed to have the same direction as the wind. Swell waves are waves not raised by the local wind, but rather by distant wind systems or by winds that have since ceased to blow. Swell waves characteristically exhibit more regular and longer periods, and have flatter crests than wind waves within their generating area (fetch). Sea and swell waves occur singly or in manifold combination from which they can sometimes be separated only with difficulty.

Indeterminate directions are combined with calms in the direction scale of the graph (they can be distinguished by consulting the sea height scale). The number of observations noted on the graphs is from the higher of sea or swell when both are reported; if the heights were equal, then the one with the longer period was selected. If only one wave was reported (sea or swell) then that value was used. Refer to the texts of Sets 14 and 18-21 for complete information on waves, and to the introductory text section of Section II for sea ice information.



January

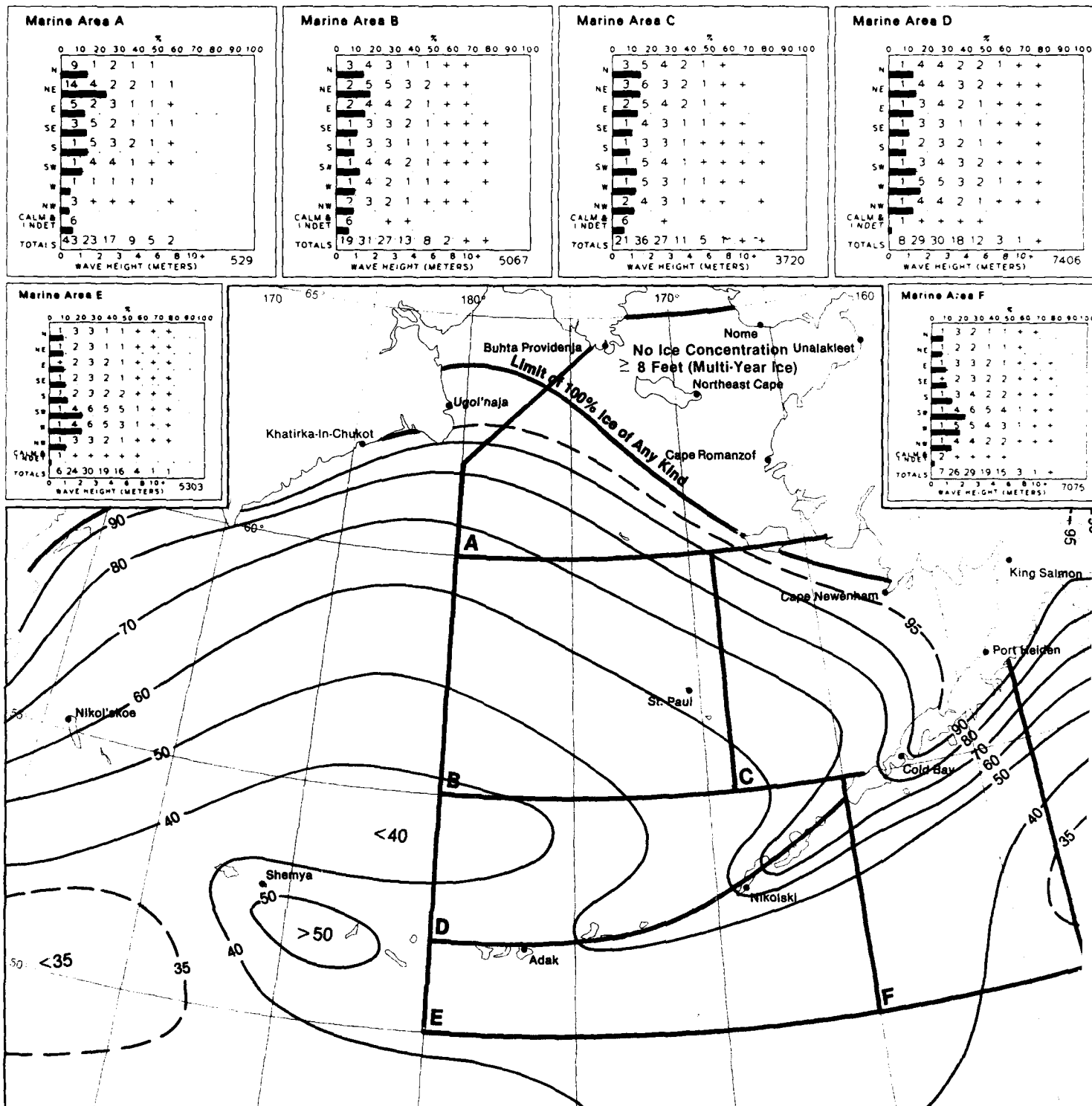
19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\leq$  8 Fe



19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq 8$  Feet

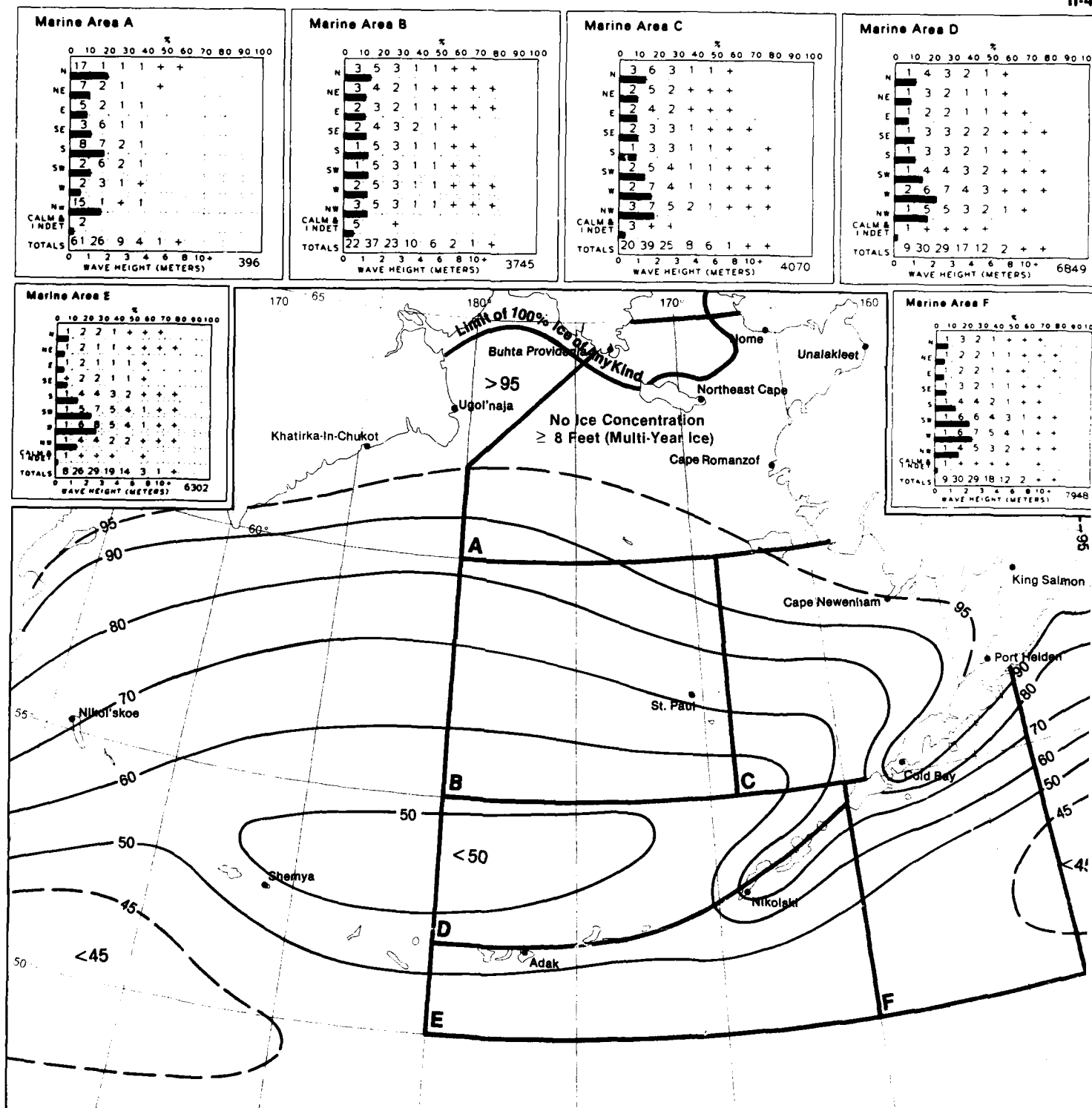
Februa

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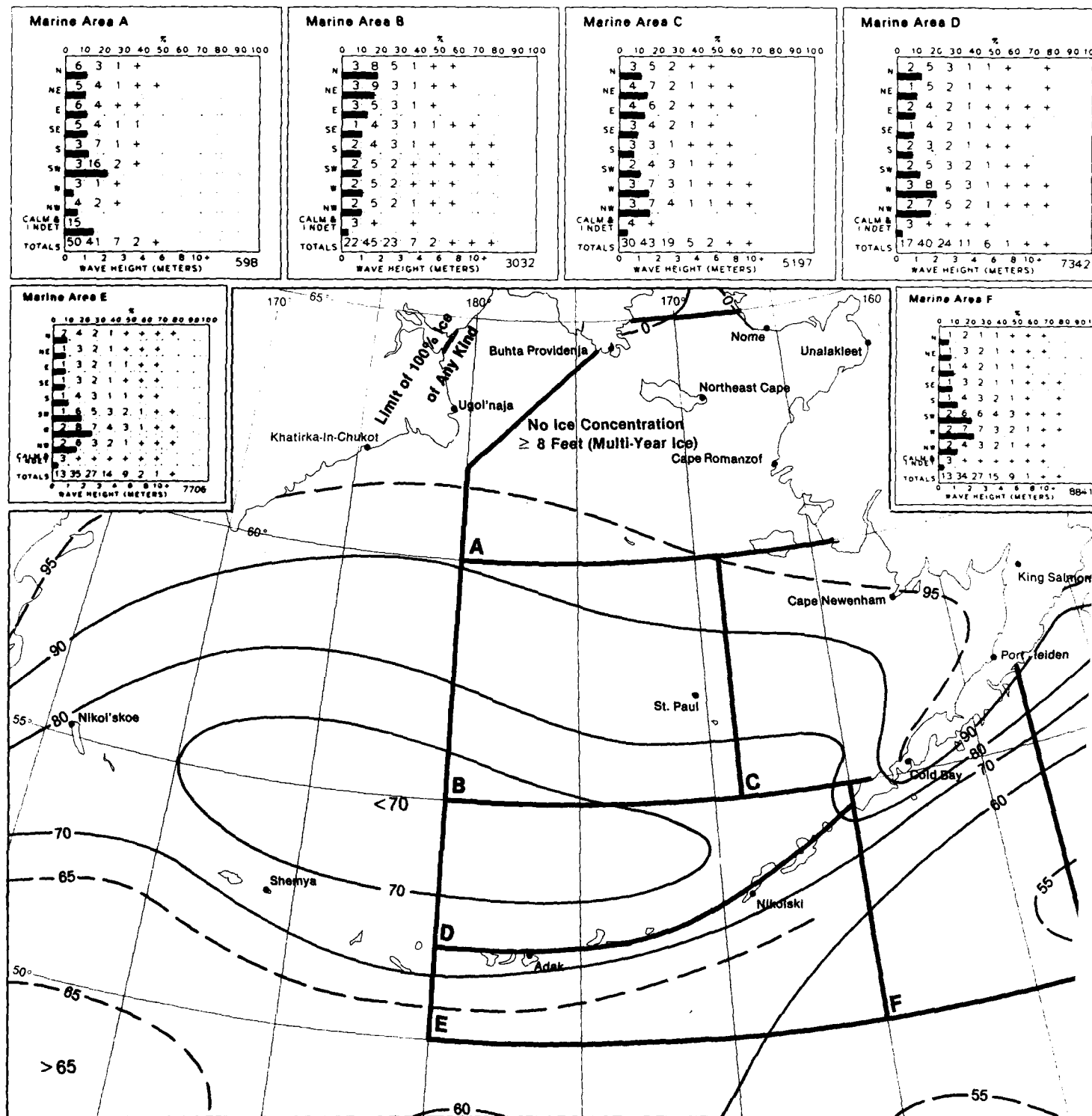
March

19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq 8$  F



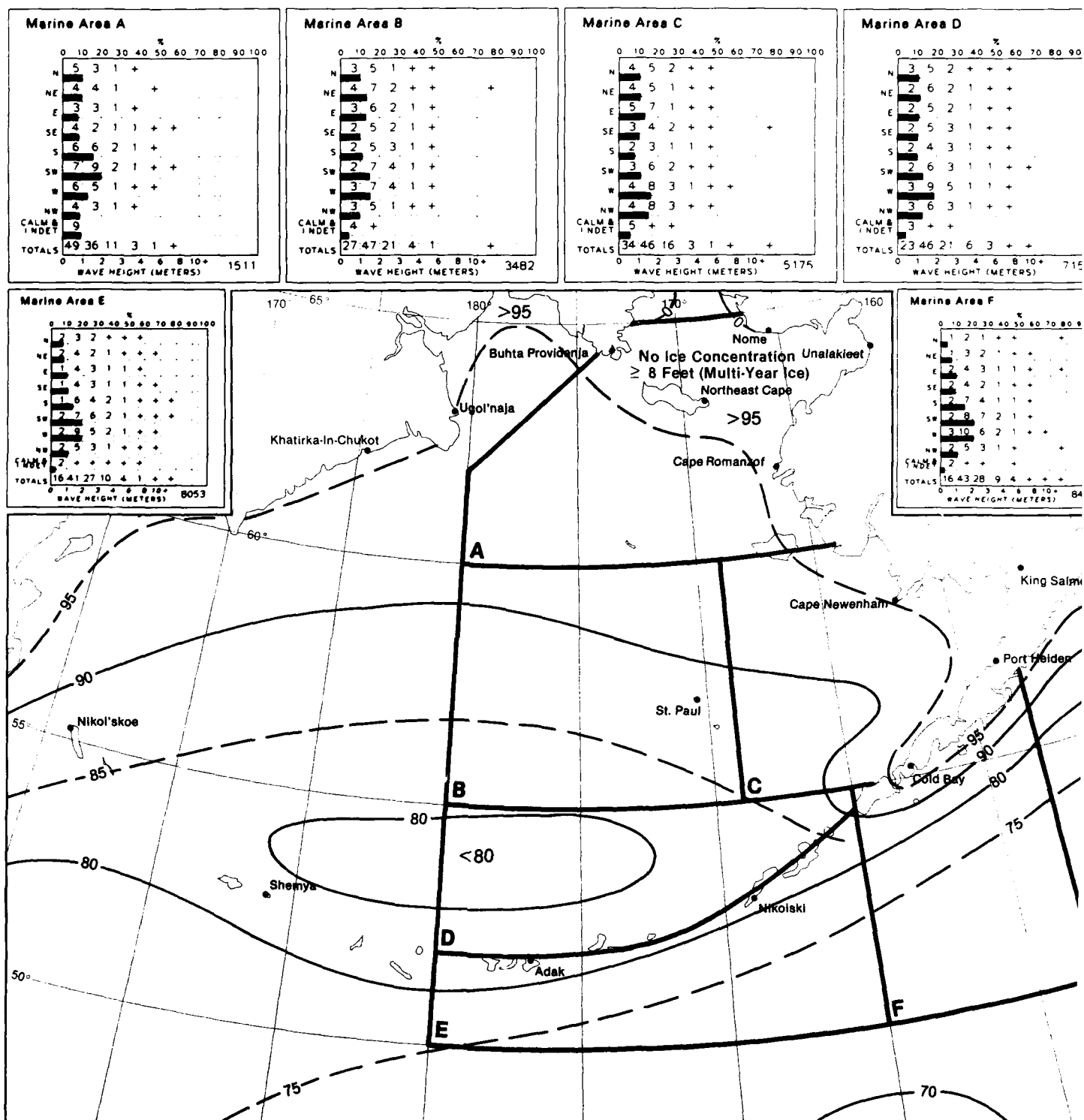
19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness ≥ 8 Feet

11-442



May

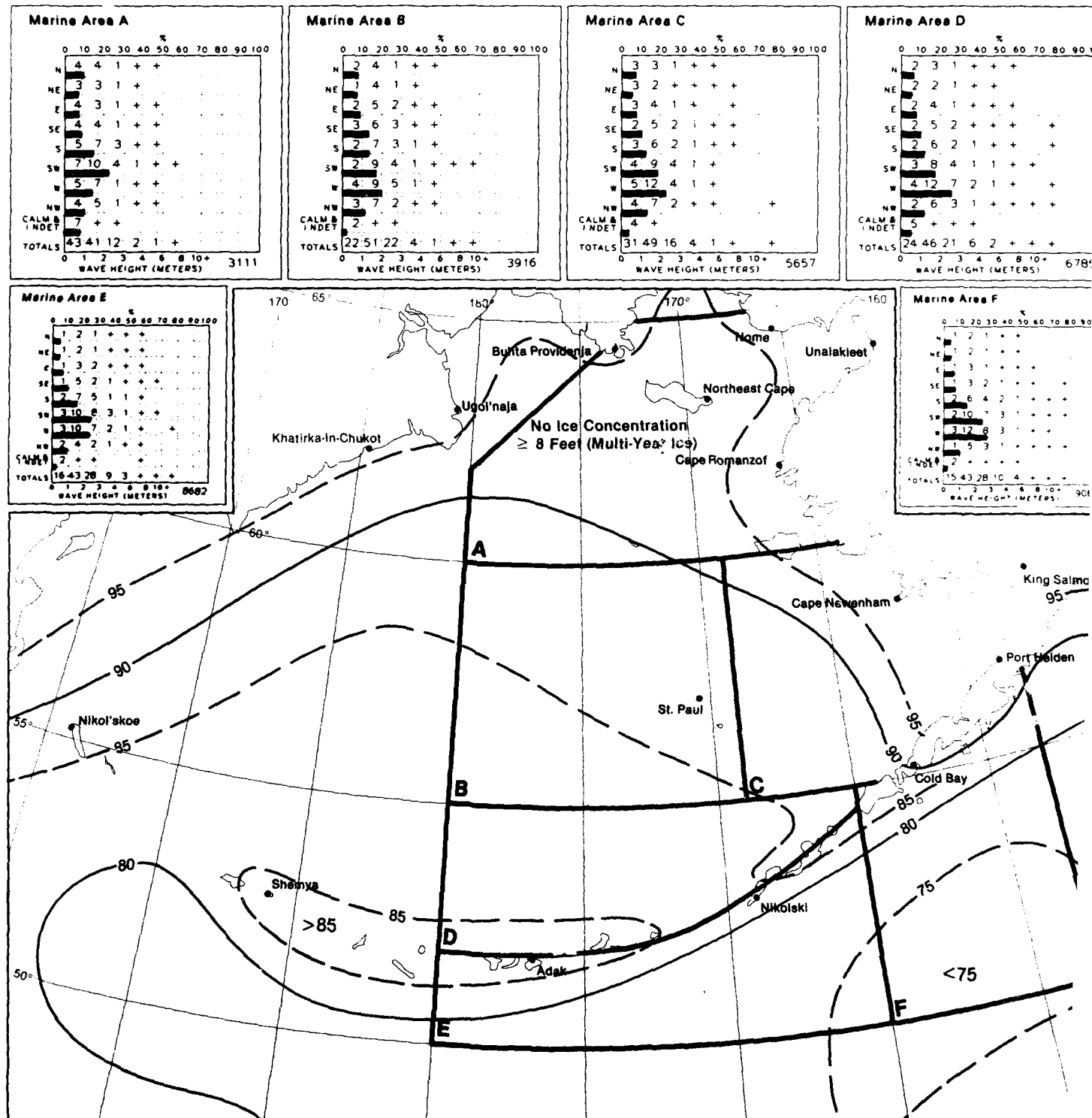
19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq 8$



19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq$  8 Feet

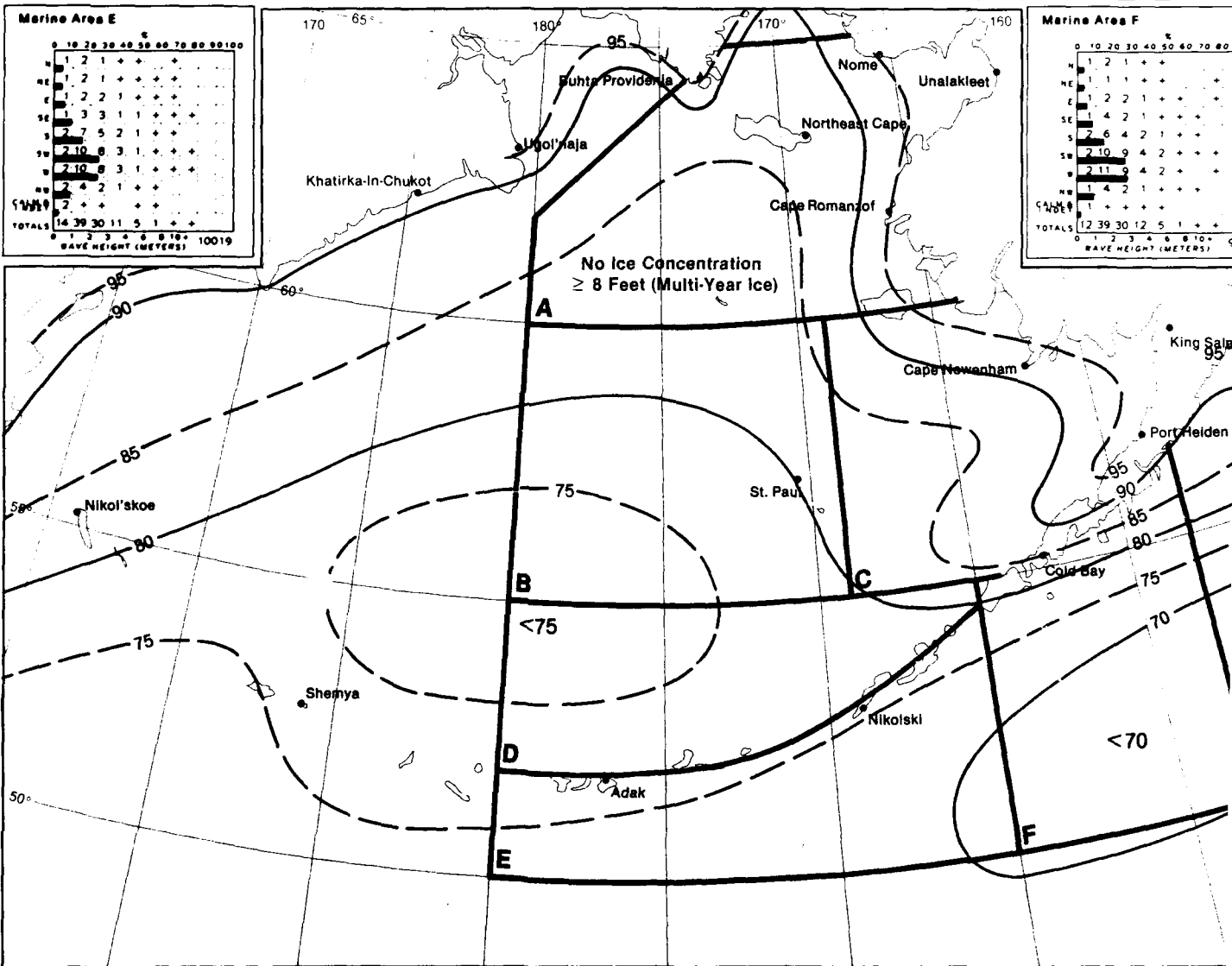
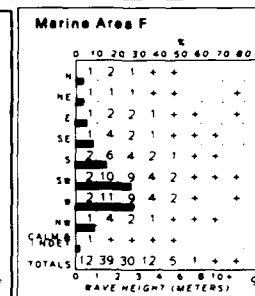
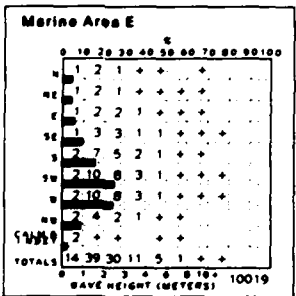
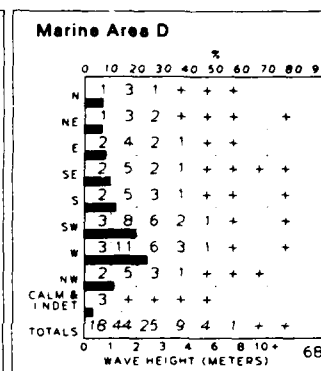
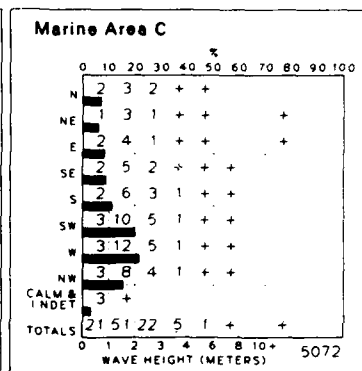
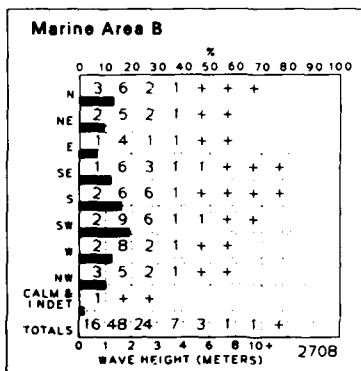
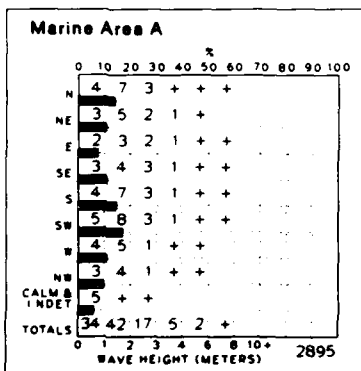


II-444



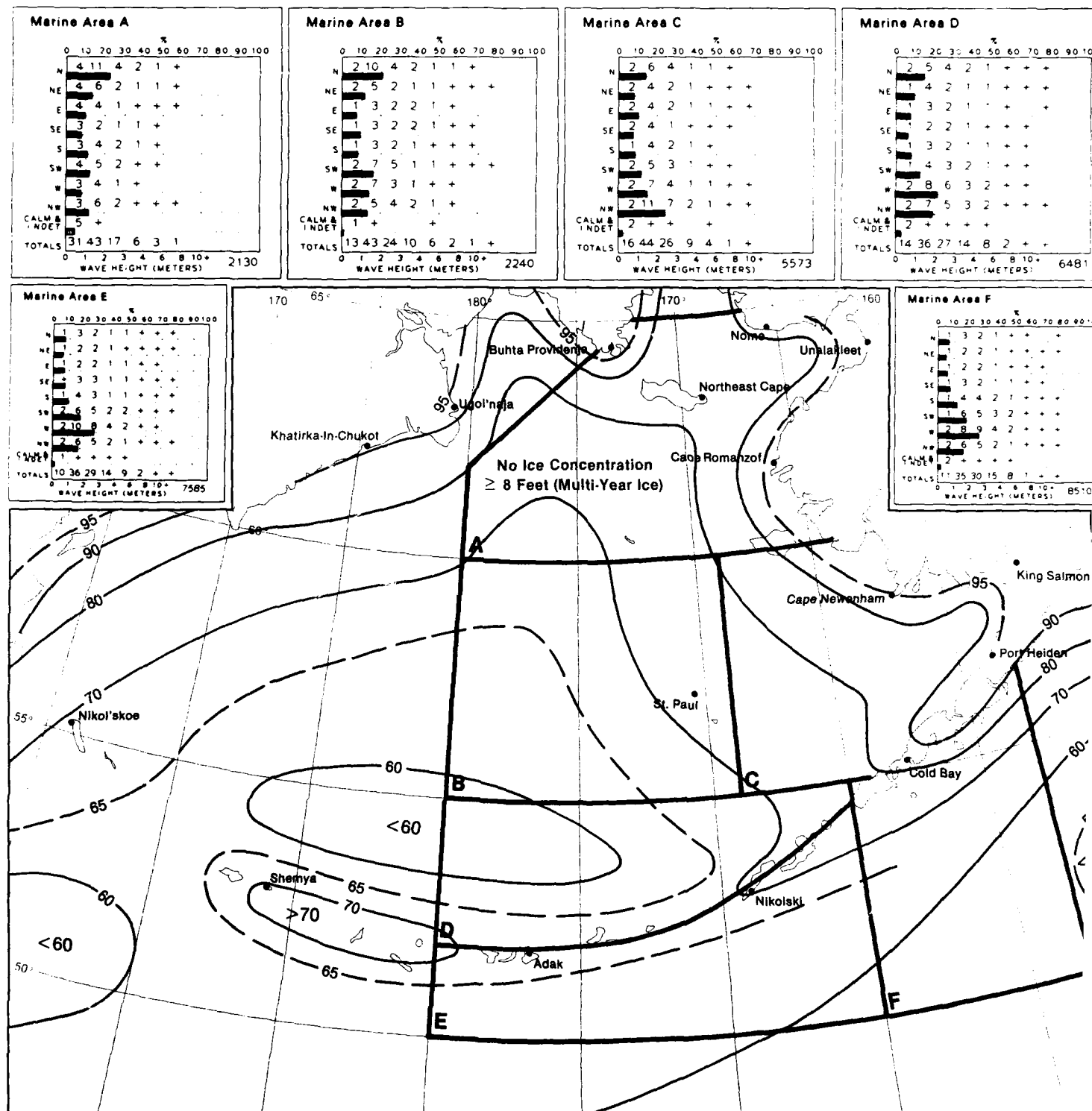
July

19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq 8$



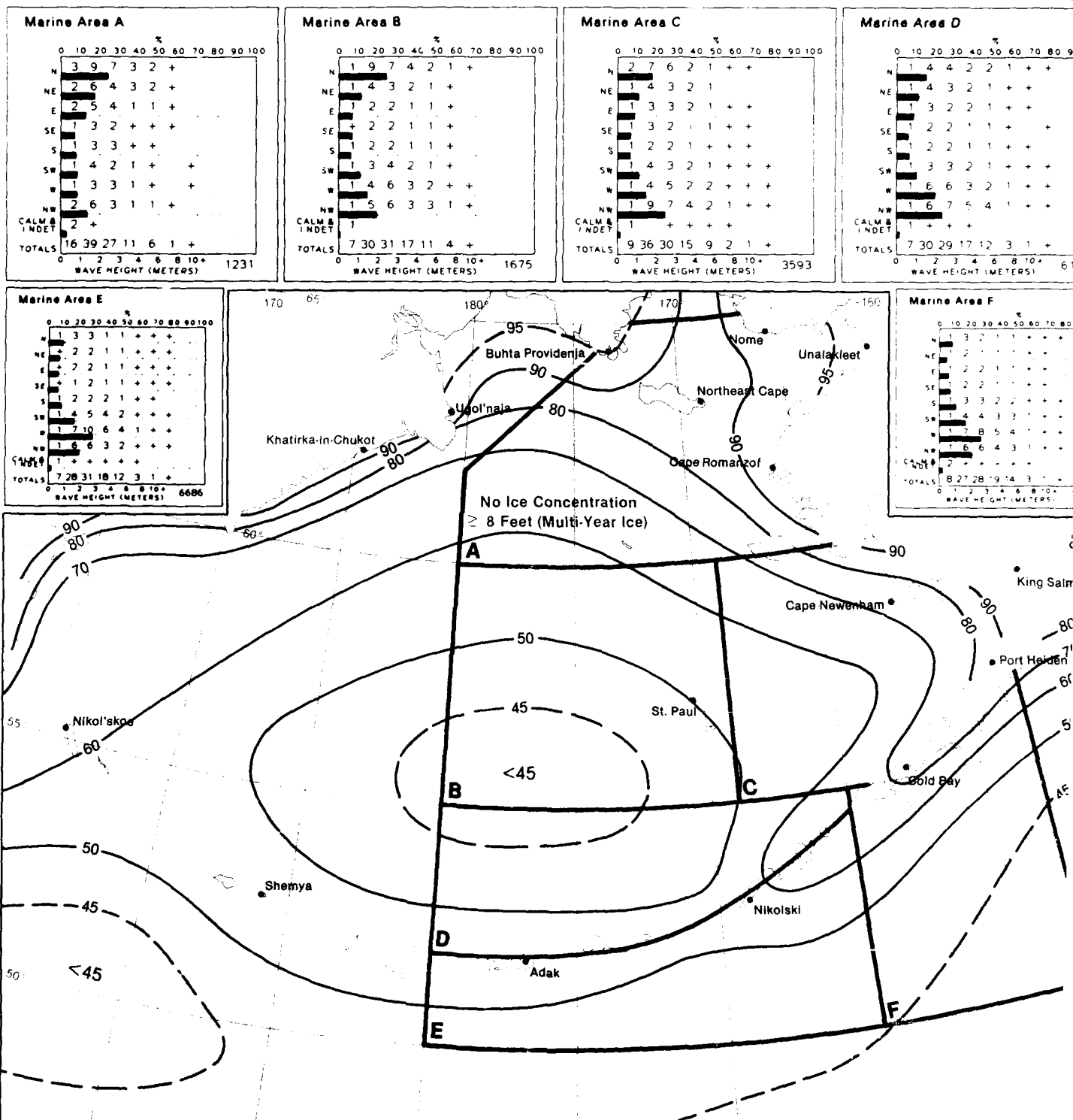
**19 Wave Height and Direction**  
**Wave Height < 8 Feet and Ice Thickness  $\geq$  8 Feet**

Au

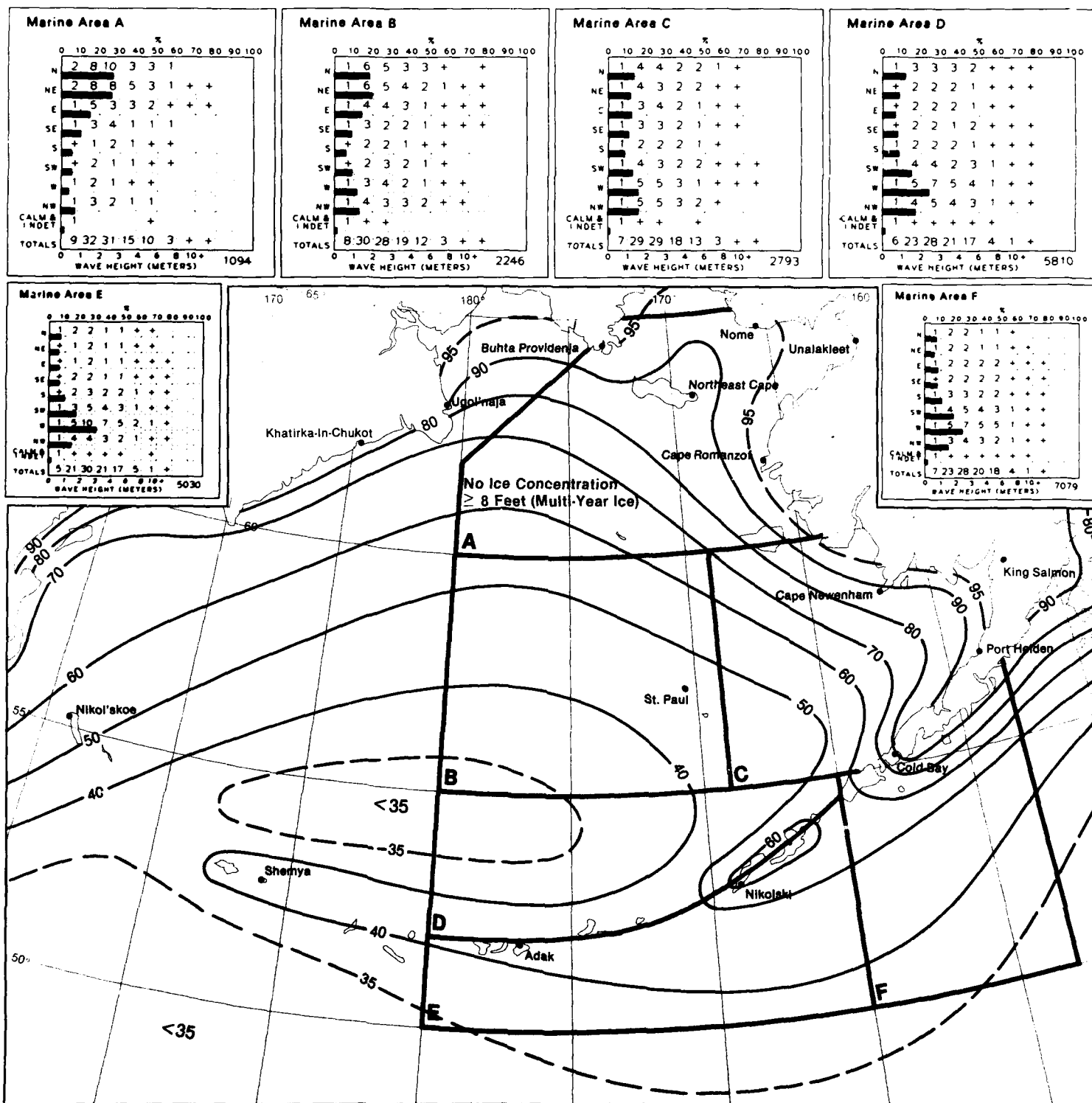


September

19 Wave Height and Direction  
Wave Height  $< 8$  Feet and Ice Thickness  $\geq 8$  F

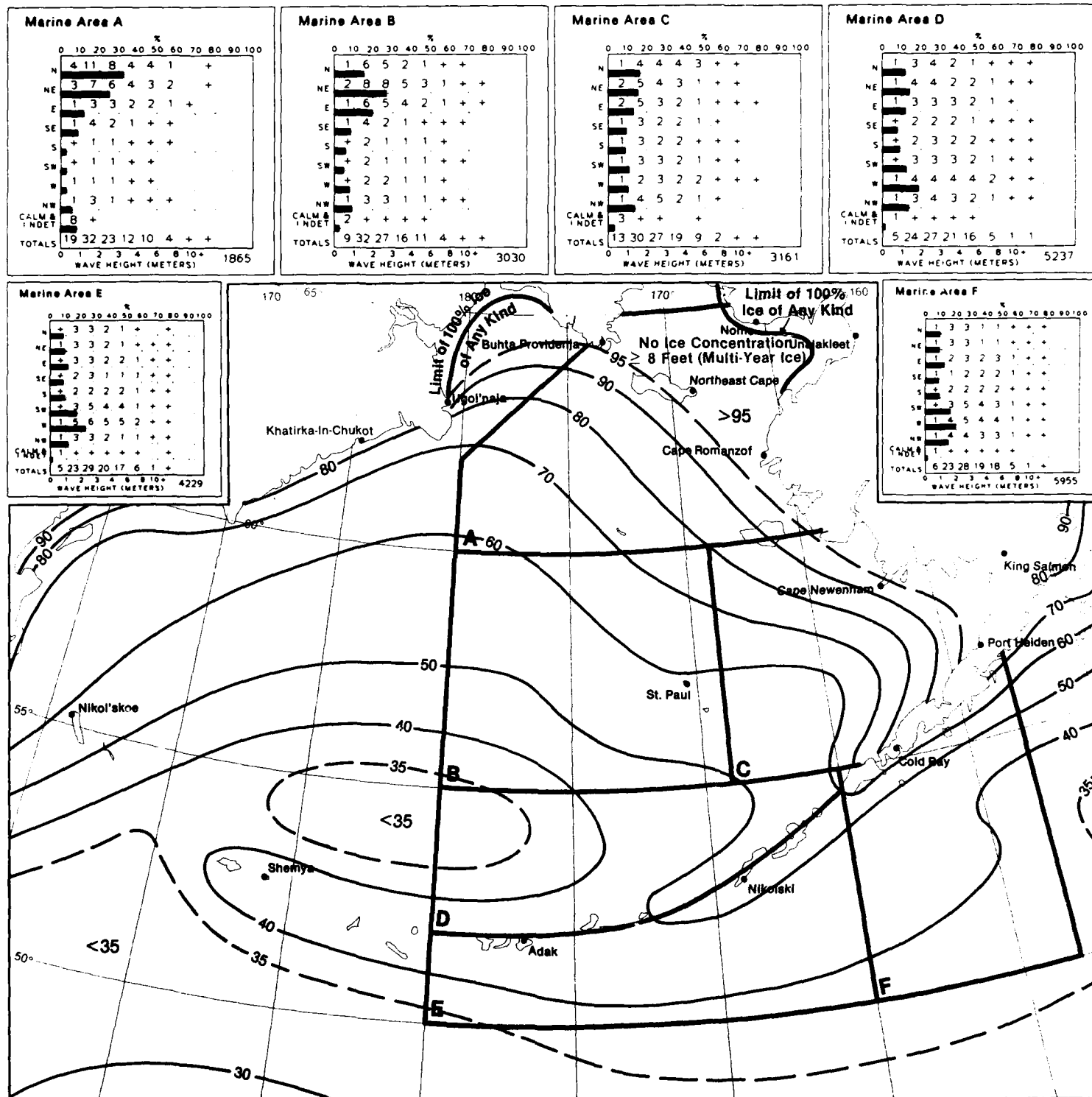


19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq 8$  Feet



November

19 Wave Height and Direction  
Wave Height < 8 Feet and Ice Thickness  $\geq 8$  Feet



19 Wave Height and Direction  
Wave Height  $< 8$  Feet and Ice Thickness  $\geq 8$  Feet

December

11-450

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## Map 20. Wave height $\geq 12$ and $\geq 20$ feet

BLACK LINE – Percent frequency of wave height  $\geq 12$  feet ( $\geq 3.5$  meters).

BLUE LINE – Percent frequency of wave height  $\geq 20$  feet ( $\geq 6$  meters).

Albers Equal-Area Conic Projection

### Graphs: Wave height/period

Percent frequency of occurrence of wave period and height.

WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	IND
0-.5	21	3	1	+	+	+	6
1-1.5	22	16	6	2	1	+	+
2-2.5	3	6	4	3	1	+	+
3-3.5	+	1	1	1	1	+	+
4-5.5	+	+	+	+	+	+	0
6-7.5	0	+	+	0	0	+	0
8-9.5	0	0	0	+	0	0	0
$\geq 10$	0	0	0	0	0	+	0

+ indicates  $<.5\%$  but  $>0$ .

(2% of observed waves had a height of 1-1.5 meters and a period of 10-11 seconds.)

Number of observations.

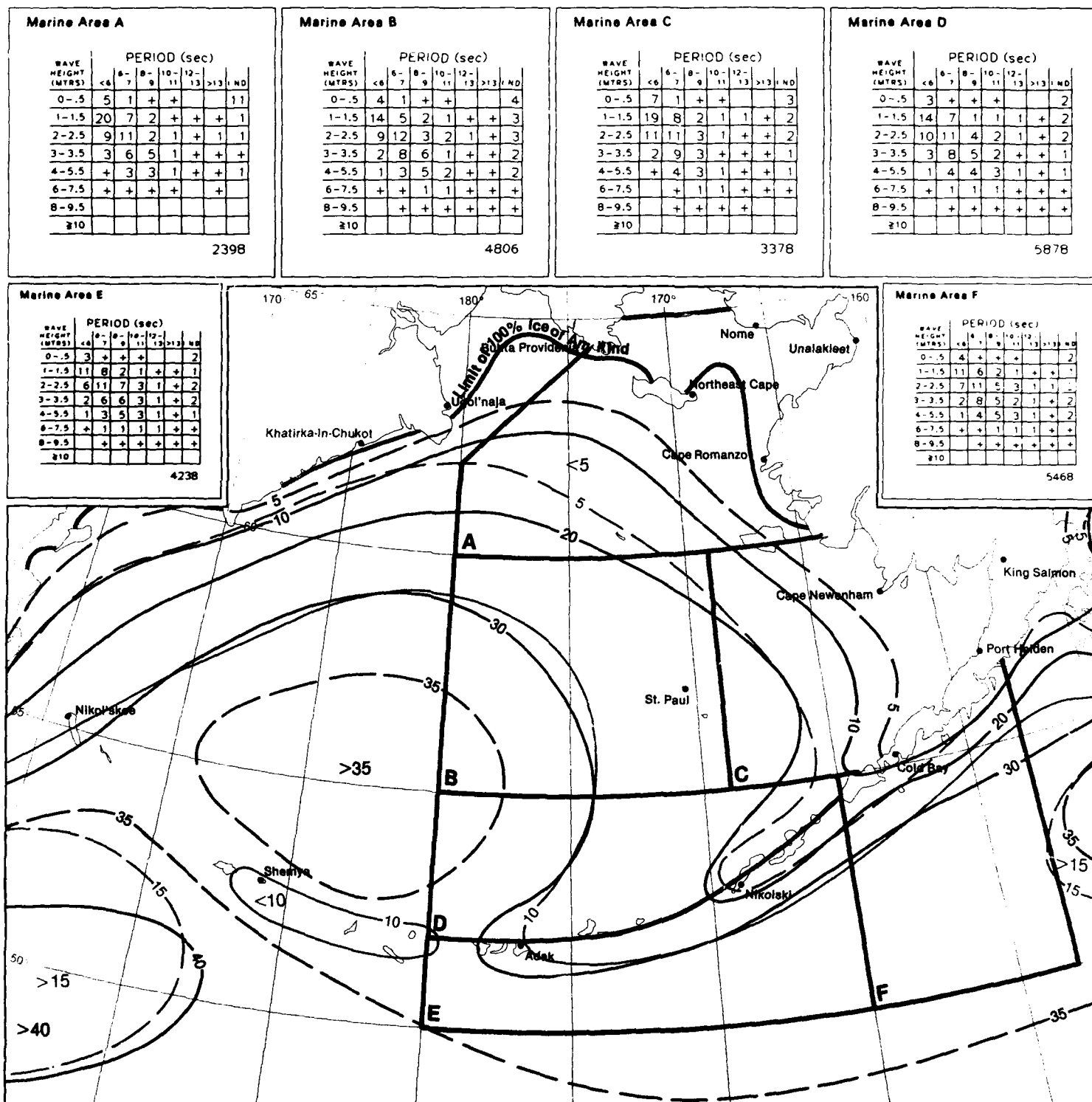
Waves are selected on the basis of the higher of sea and swell when both are reported. If both heights are equal, the wave with the longer period is selected.

4010

Wave period is the interval in seconds between the passage of two successive crests or troughs of well-formed waves past a fixed point. Waves in the same system usually occur in a sequence of a few large, well-formed waves followed by an interval in which only small and poorly-formed waves occur, and another series of well-formed waves, etc. Observers aboard ship determine the values of wave height, period, and direction generally using only the well-formed waves and ignoring poorly-formed waves. To describe a similar sea state from a measured wave record, a statistical approach is used to describe the significant wave height ( $H/3$ ) which is the average of the highest one-third of the measured waves. This roughly approximates the characteristic height observed visually from aboard ship. To determine the period of wind waves or swell, the observer needs only to select a distinctive patch of foam or a small floating object at some distance from the ship. As the object falls astern, a new one is selected. The elapsed time is determined to the nearest second between the instant when the object is on the crest of the first and of the last well-formed wave in the group. Noting the number of crests that pass under the object during the interval permits computation of the average period. An experienced observer needs only to observe a few representative wave "sets" to derive the average period.

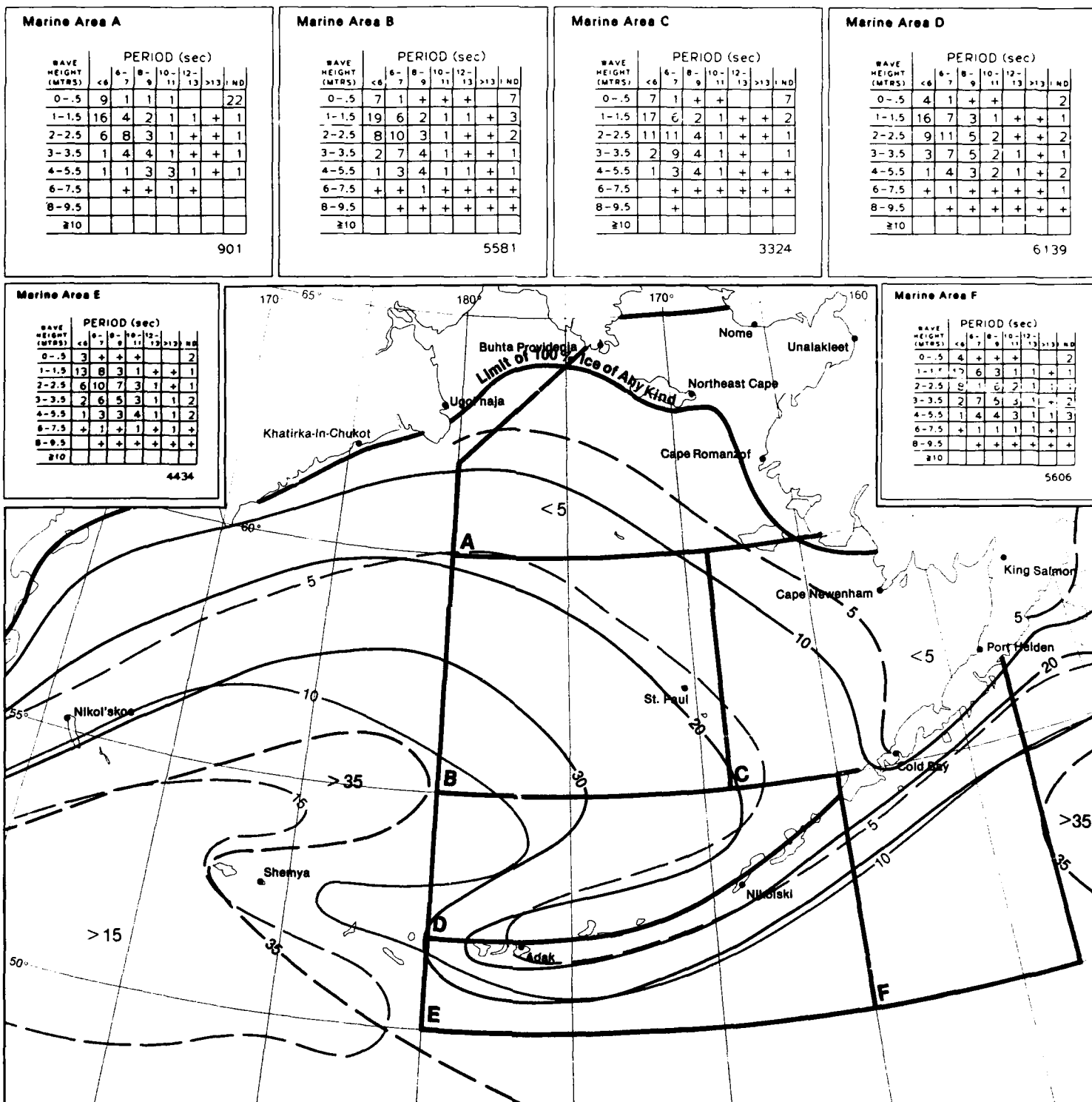
The number of observations noted on the graphs is that of those observations reporting both wave height and period. The wave height isopleth presentations are for a generally hazardous sea condition (wave heights equal to or greater than 12 feet). Refer to the texts of Sets 14 and 18-21 for complete information on waves.





January

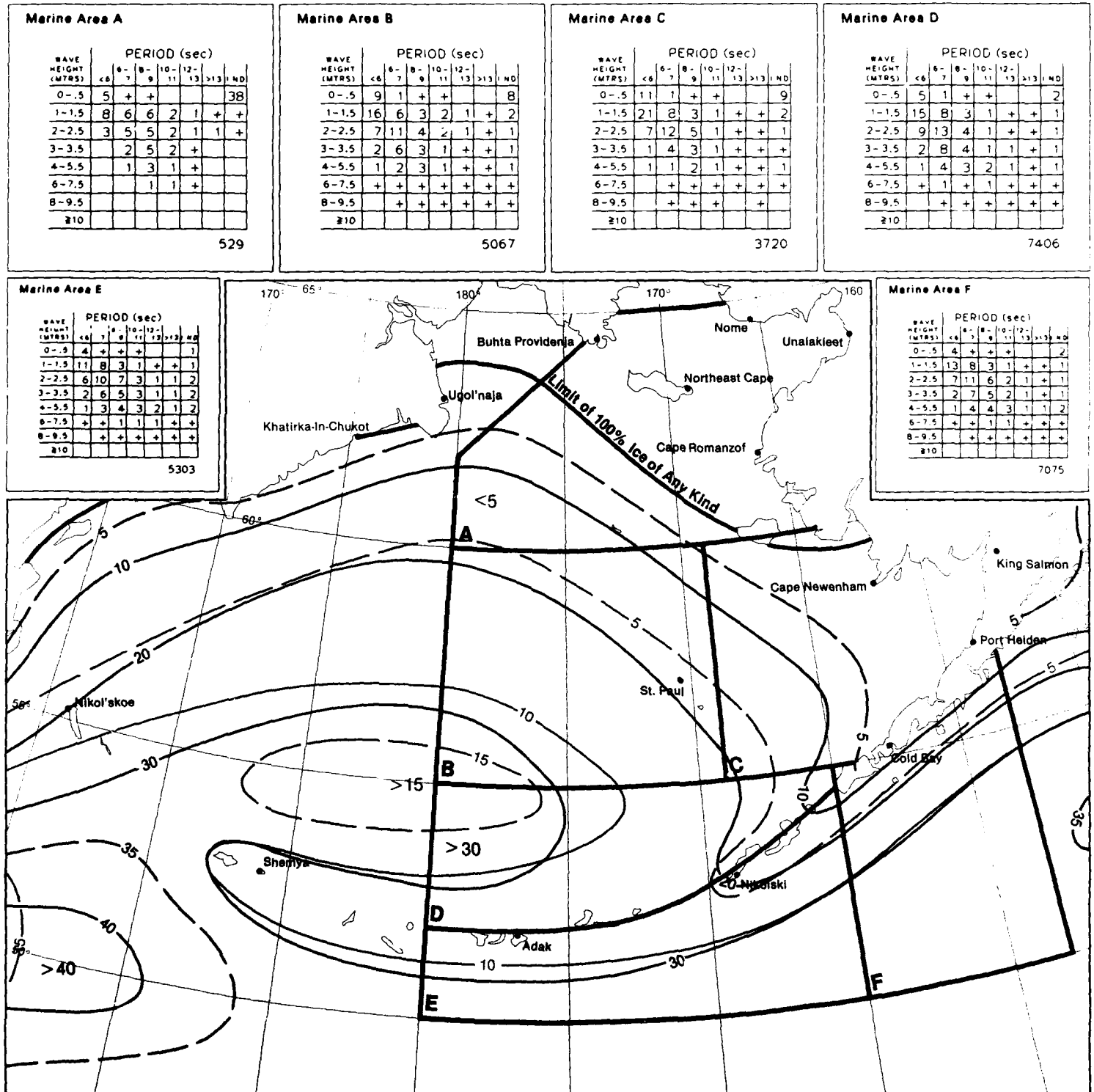
20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet



20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet

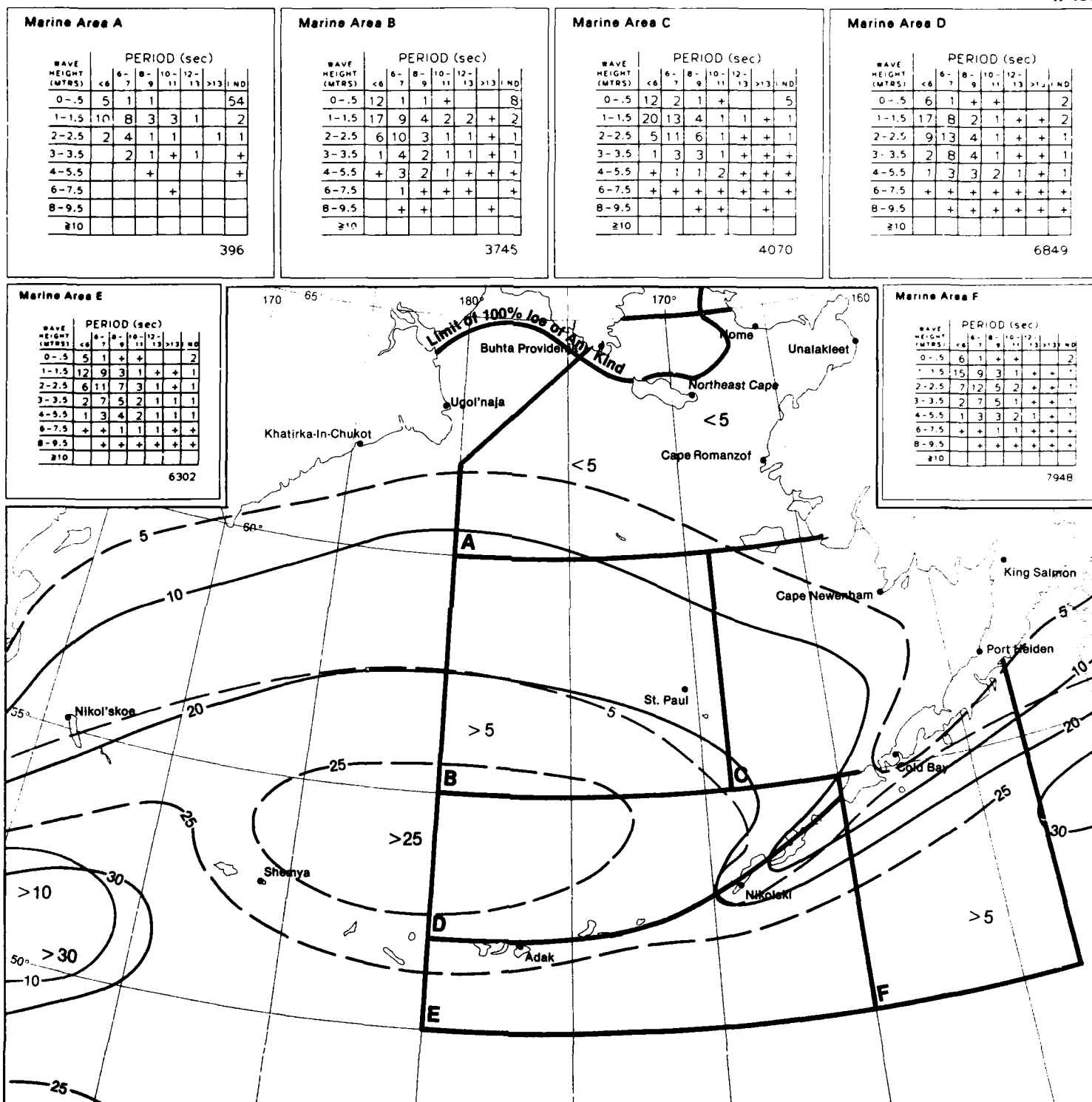
February

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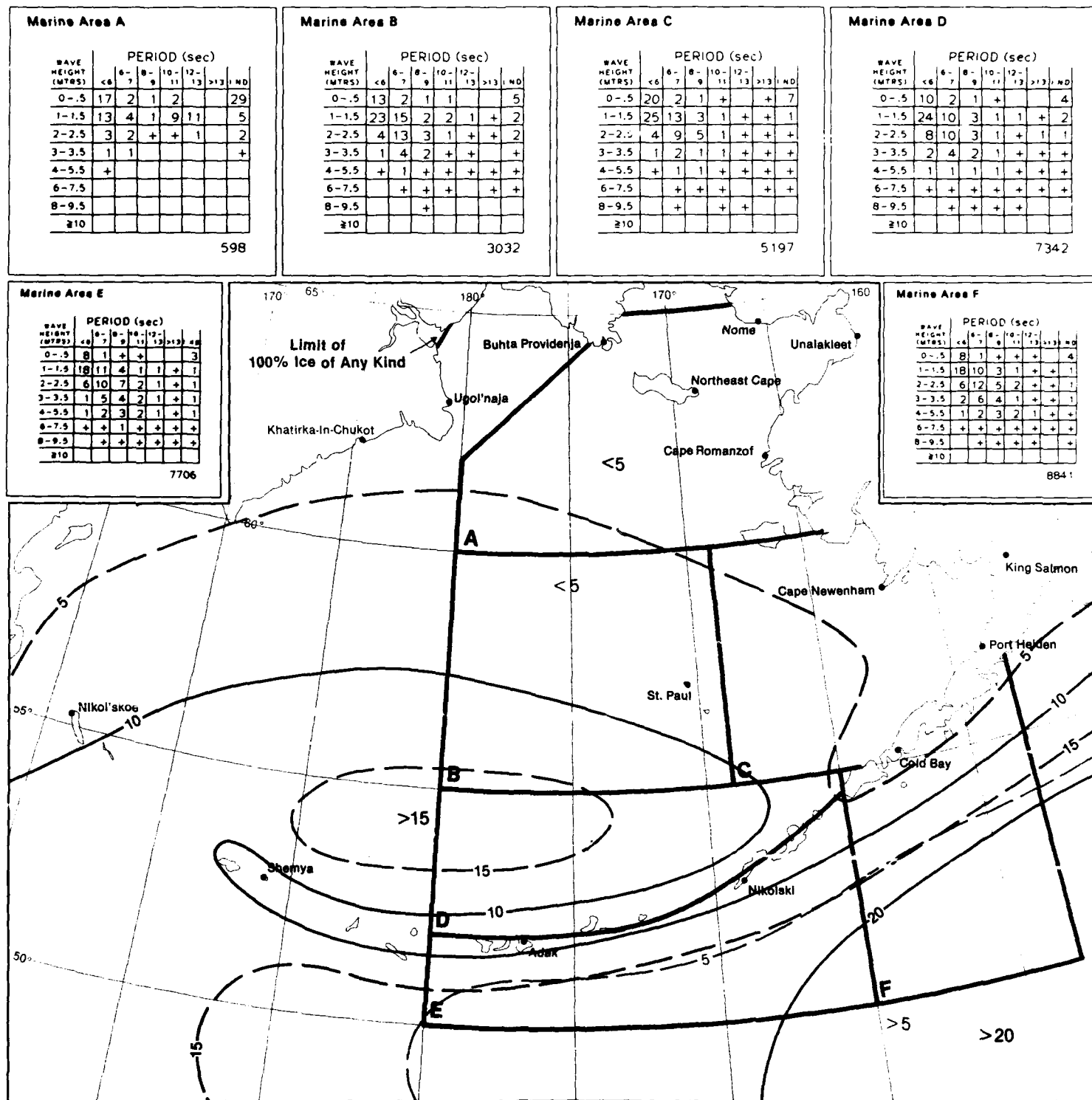
March

20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet



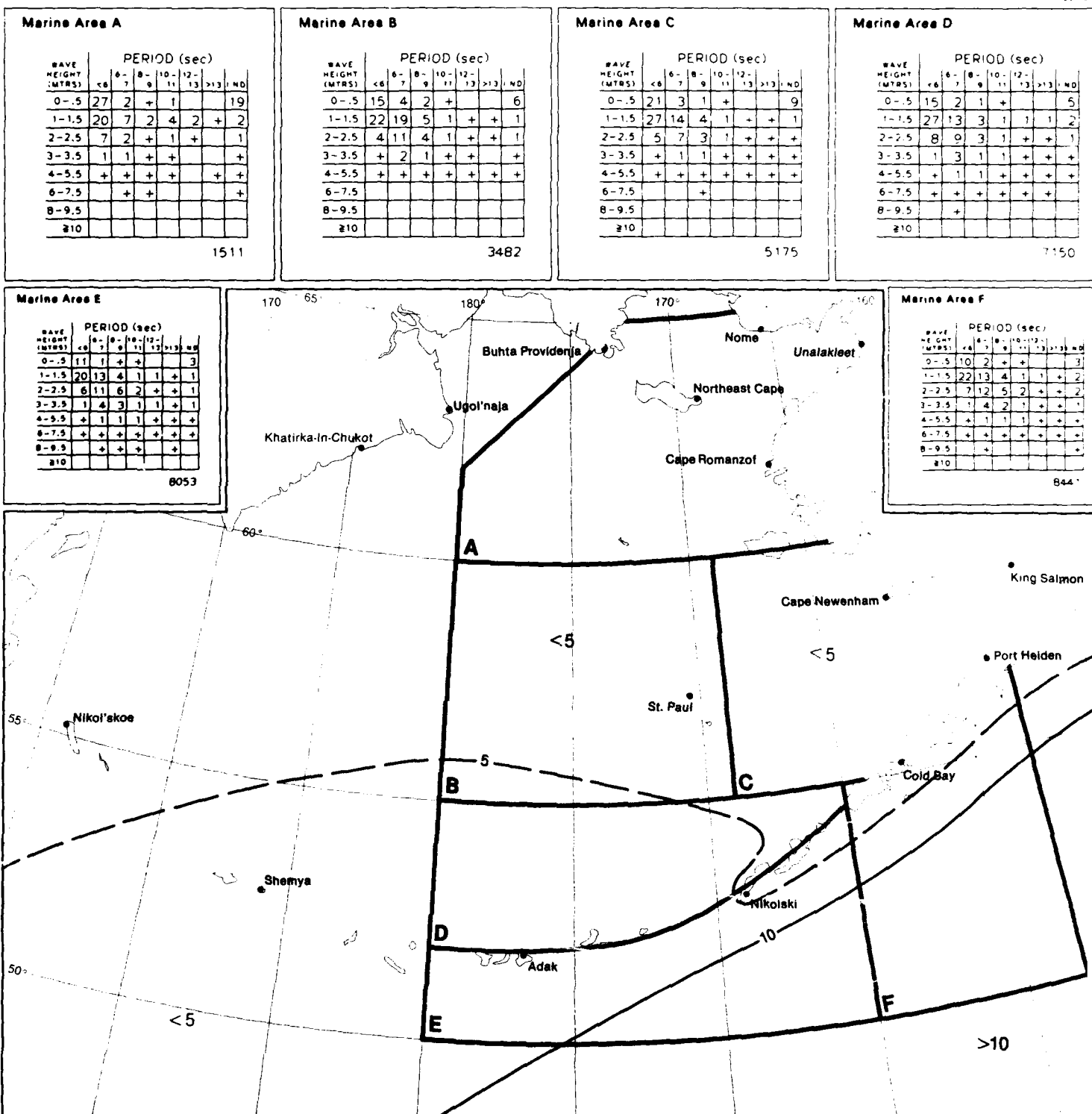
20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet

April



May

20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet



20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet

Ju

Marine Area A

WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	ND
0-0.5	26	4	1	1			12
1-1.5	24	1	2	+	+	+	3
2-2.5	5	5	1	+	+	+	1
3-3.5	+	1	1	+	+	+	+
4-5.5	+	+			+	+	+
6-7.5	+	+					
8-9.5							
≥10							

3111

Marine Area B

WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	ND
0-0.5	14	3	+	+			4
1-1.5	23	22	4	+	+	+	1
2-2.5	4	12	4	1	+	+	+
3-3.5	1	2	1	+	+	+	+
4-5.5	+	+	+	+	+	+	+
6-7.5					+	+	
8-9.5			+				+
≥10							

3916

Marine Area C

WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	ND
0-0.5	19	2	1	+			B
1-1.5	29	15	3	1	+	+	1
2-2.5	4	8	3	1	+	+	1
3-3.5	+	2	1	+	+	+	+
4-5.5	+	+	+	+	+	+	+
6-7.5				+	+		
8-9.5							
≥10							

5657

Marine Area D

WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	ND
0-0.5	14	2	1	+			7
1-1.5	27	12	4	1	1	+	2
2-2.5	7	8	3	1	+	+	1
3-3.5	1	3	1	+	+	+	1
4-5.5	+	1	1	+	+	+	+
6-7.5	+	+	+	+	+		+
8-9.5	+					+	+
≥10							

6785

Marine Area E

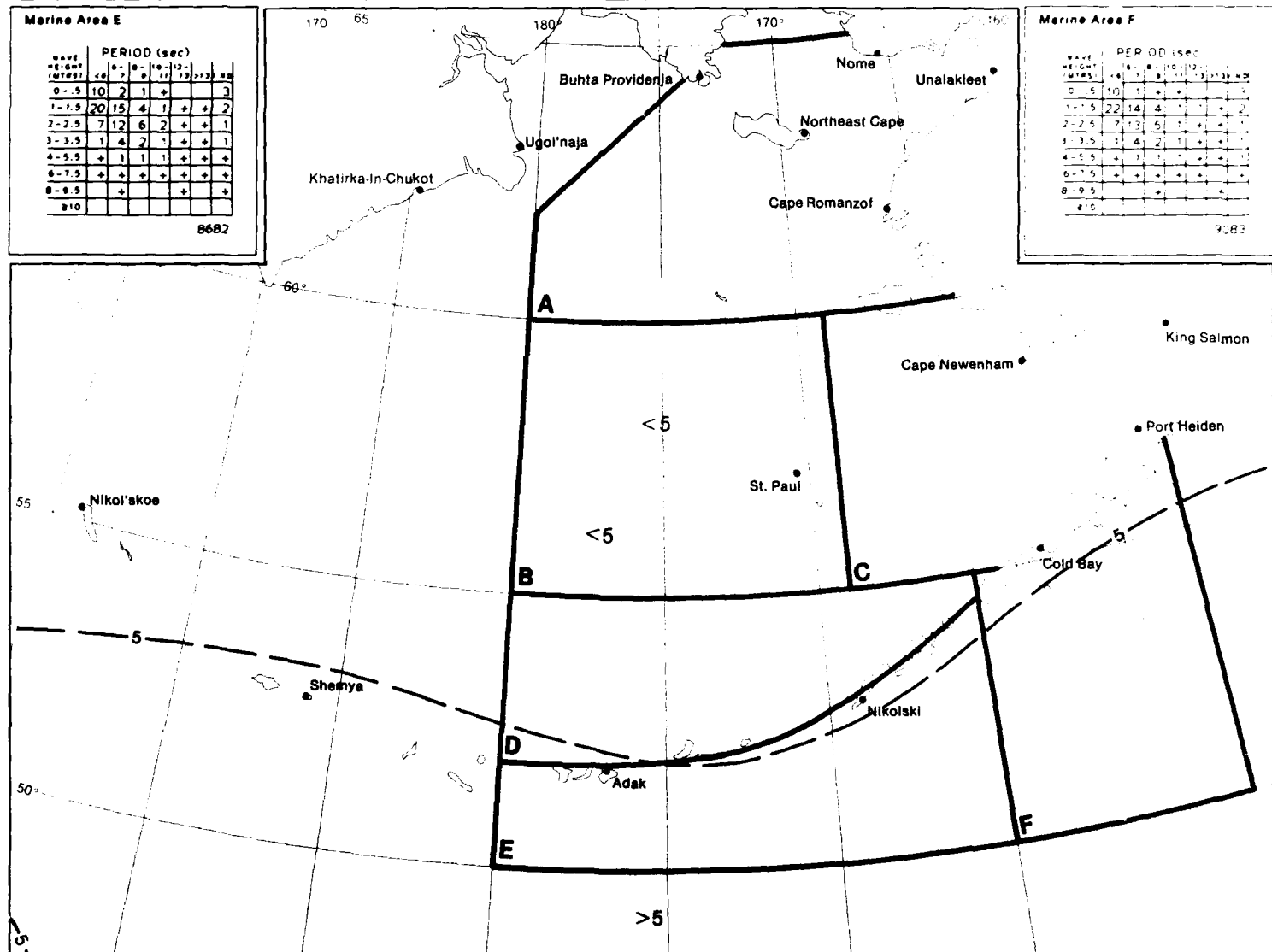
WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	ND
0-0.5	10	2	1	+			3
1-1.5	20	15	4	1	+	+	2
2-2.5	7	12	6	2	+	+	1
3-3.5	1	4	2	1	+	+	1
4-5.5	+	1	1	1	+	+	+
6-7.5	+	+	+	+	+	+	+
8-9.5	+	+	+	+	+	+	+
≥10							

8682

Marine Area F

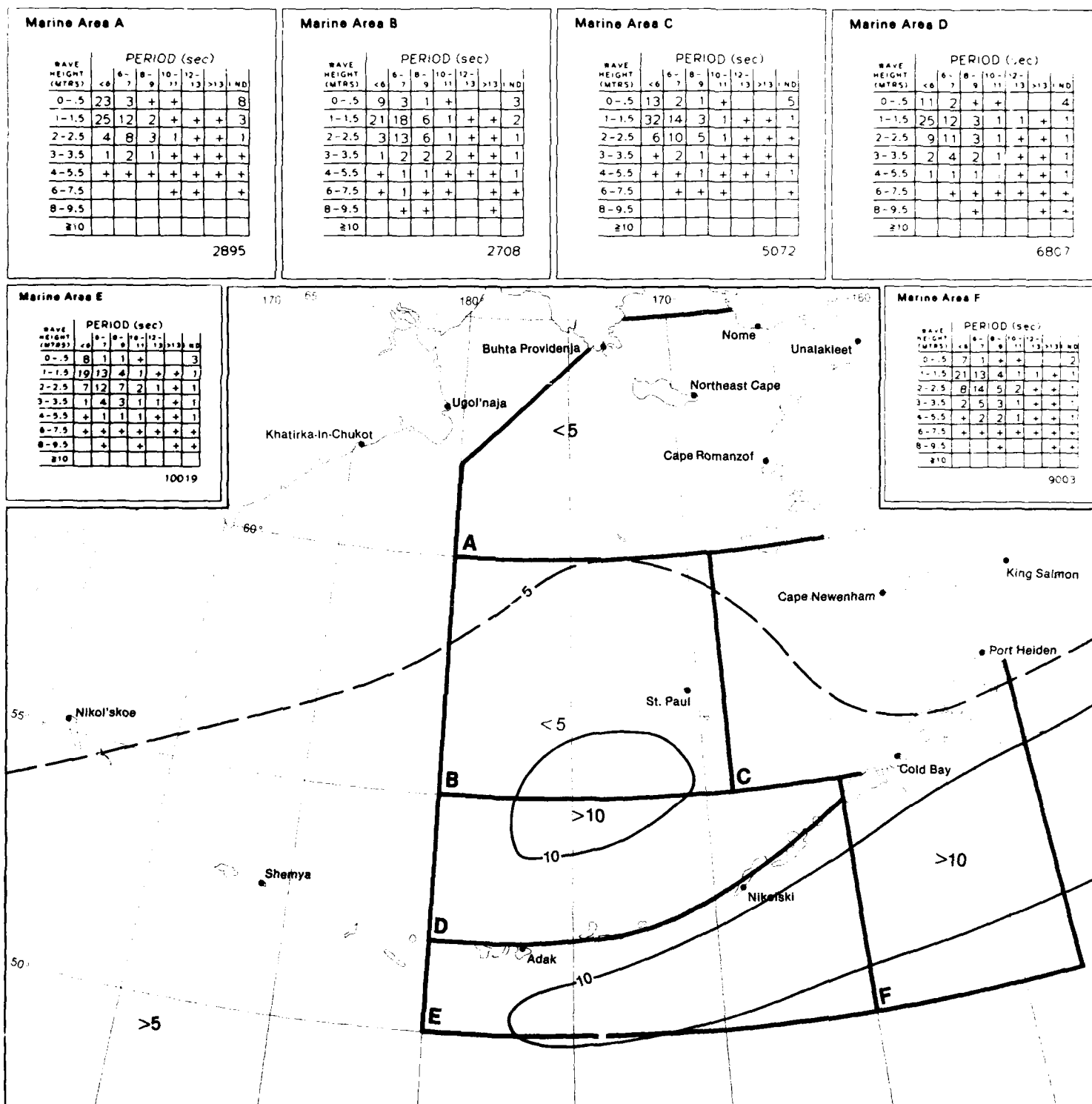
WAVE HEIGHT (MTRS)	PERIOD (sec)						
	<6	6-7	8-9	10-11	12-13	>13	ND
0-0.5	10	2	1	+			3
1-1.5	20	15	4	1	+	+	2
2-2.5	7	12	6	2	+	+	1
3-3.5	1	4	2	1	+	+	1
4-5.5	+	1	1	1	+	+	+
6-7.5	+	+	+	+	+	+	+
8-9.5	+	+	+	+	+	+	+
≥10							

9083



July

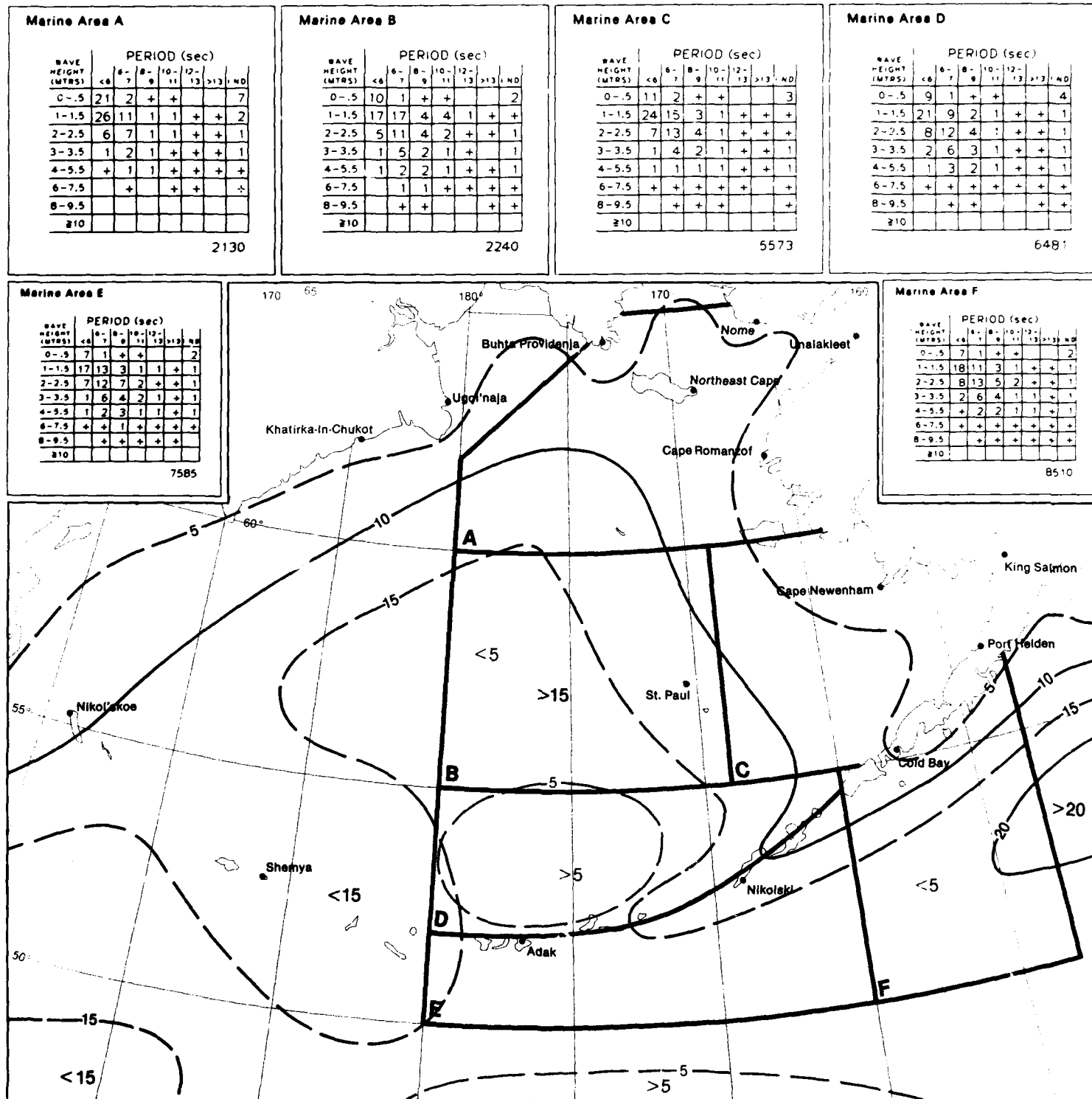
20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet



20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet

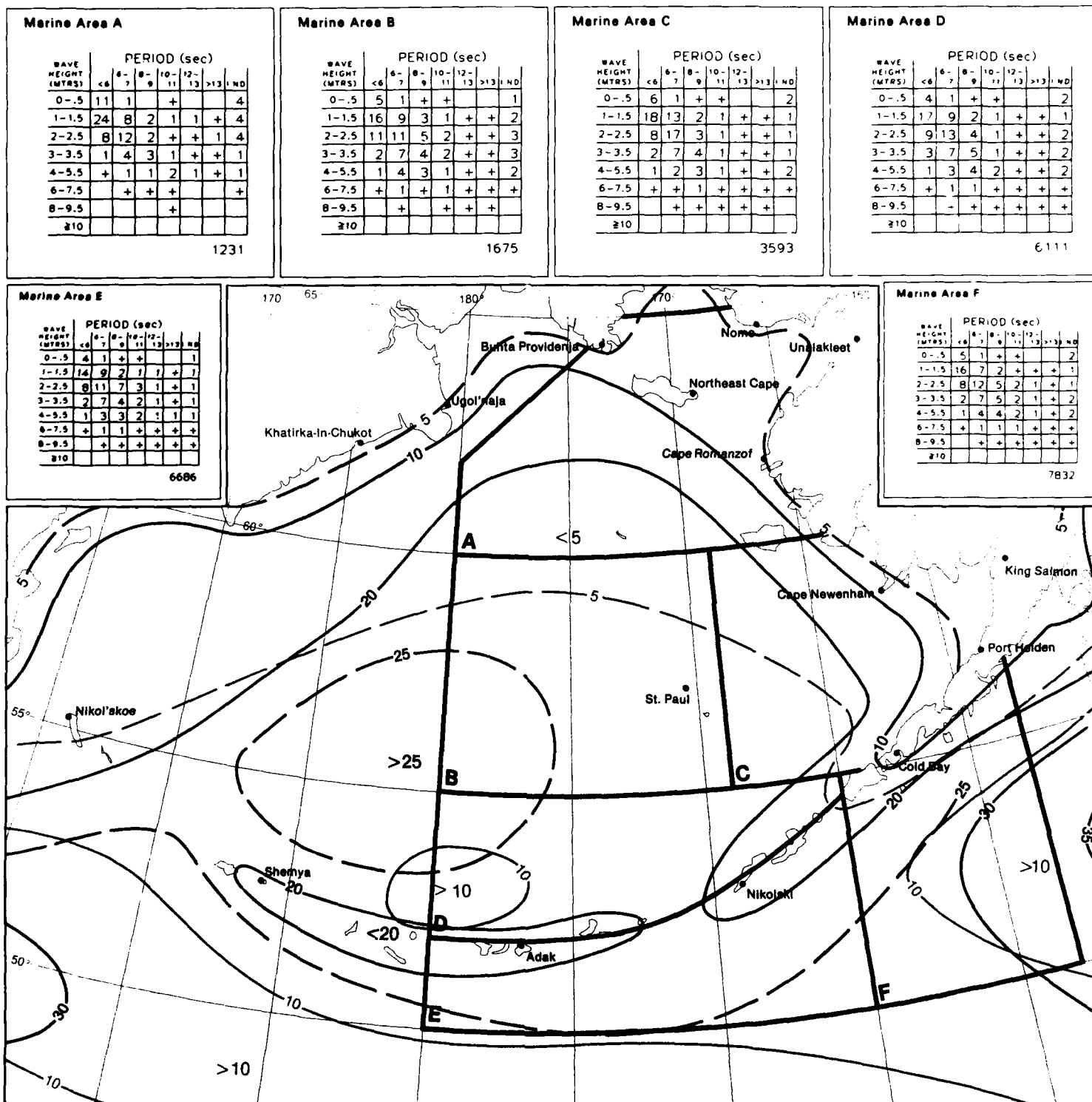
August





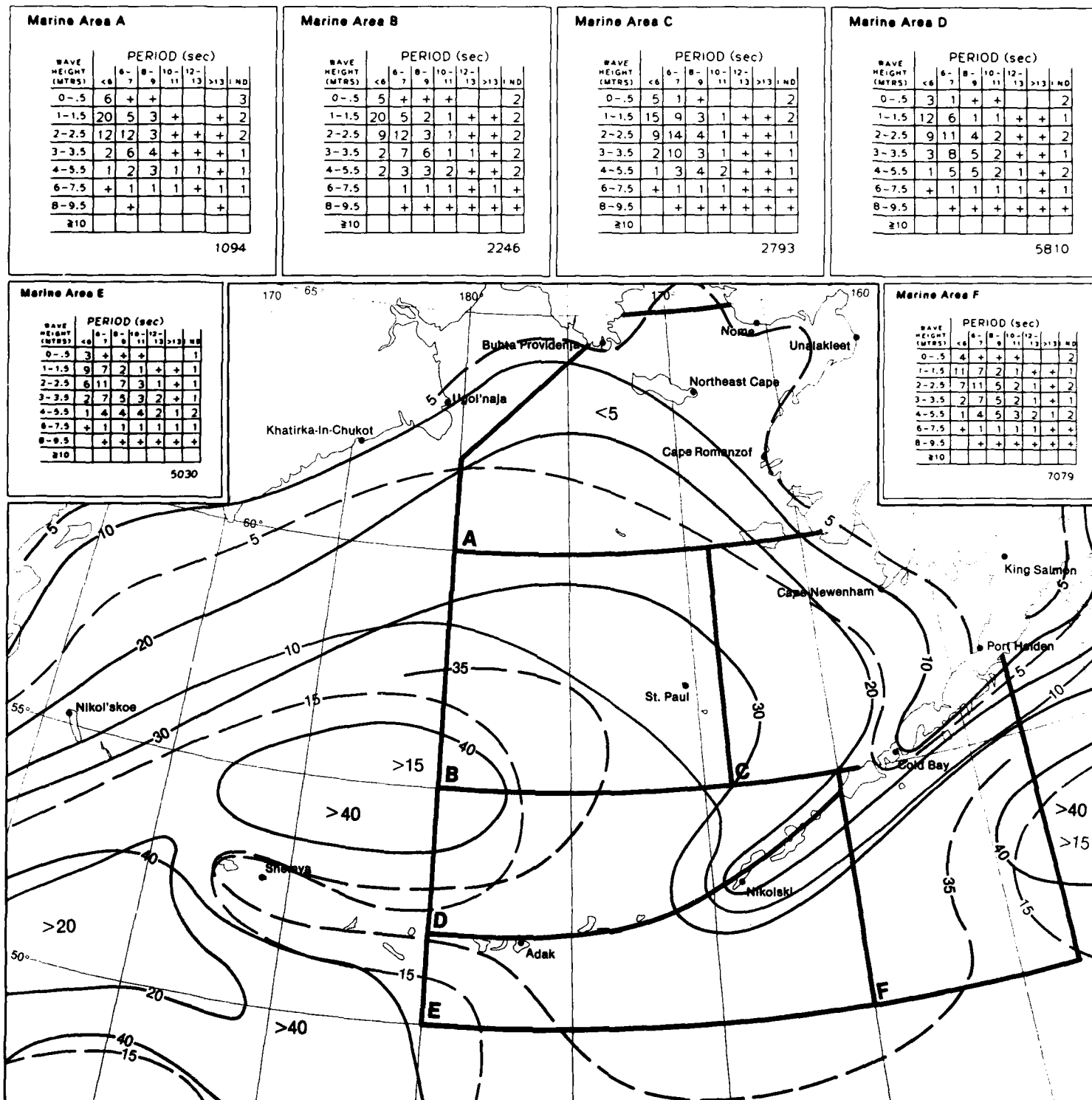
September

20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet



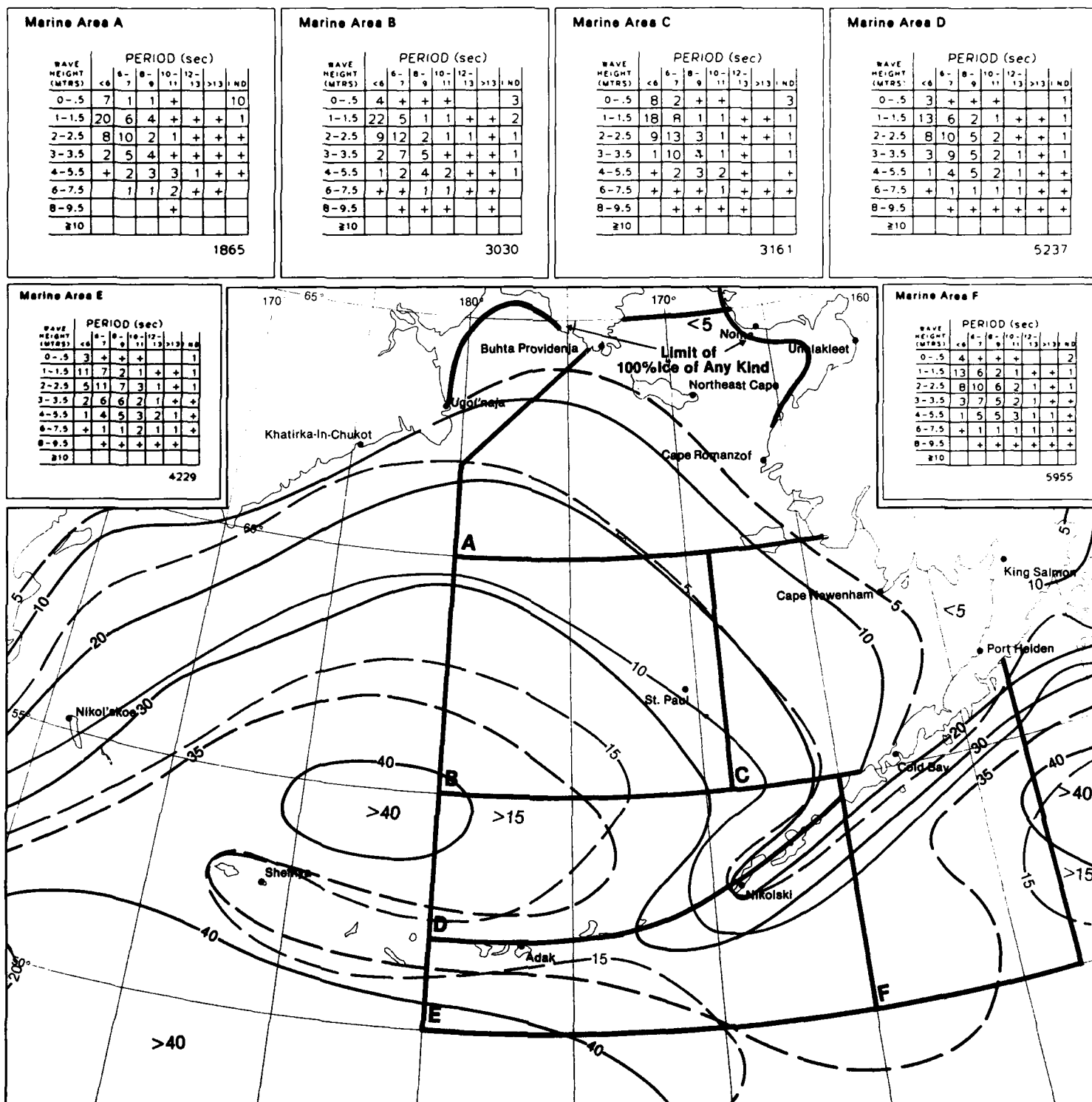
20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet

October



November

20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet



20 Wave Height and Period  
Wave Height  $\geq 12$  and  $\geq 20$  Feet

December

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## Map 21. Wave height thresholds

TABLE – Wave height frequencies.

Albers Equal–Area Conic Projection

### Graphs: Wave height thresholds

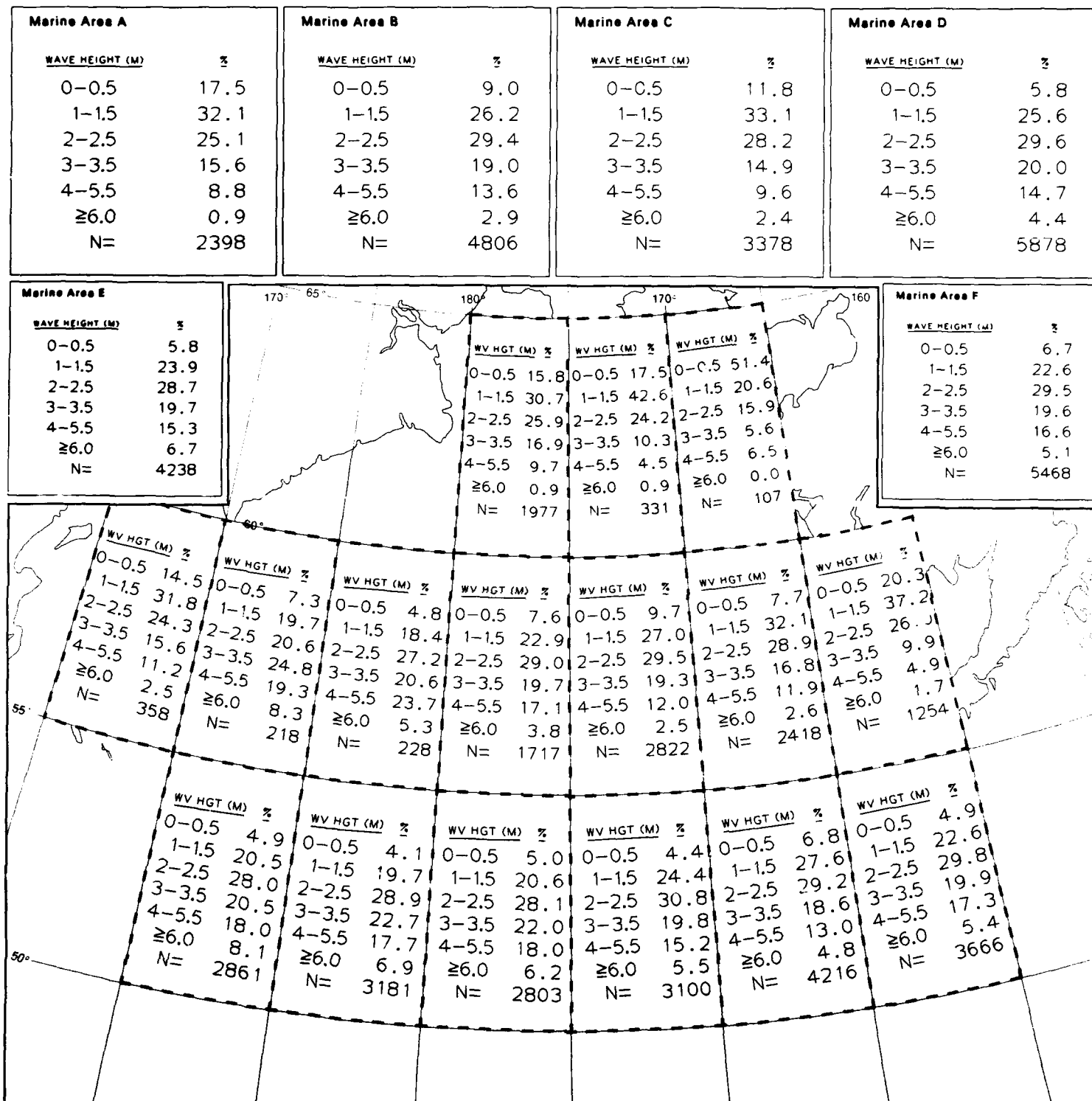
Wave height frequencies.

WAVE HEIGHT (M)	%	
0–0.5	10.0	Percent frequency of various ranges within the area.
1–1.5	20.0	
2–2.5	30.0	
3–3.5	20.0	(30.0% of all observed wave heights were in the range 2 to 2.5 meters.)
4–5.5	10.0	
≥6.0	10.0	N = Observation count.
N=	1363	

Wave data for these tables were selected from the higher of sea or swell when both were reported.

The wave height should be estimated from the best available point on the ship that permits the height of the waves to be compared to the height of the ship. The point of observation should be chosen amidships where the pitching of the vessel is at a minimum, and the wave height should be estimated when the ship is on an even keel. In general, it has been found by comparing instrument measurements to "eyeball" estimates that small wave heights are underestimated while large wave heights are overestimated. Theoretically, the wave height cannot exceed 1/13 of the wave length, measured from trough to trough. When both sea and swell, or two systems of swell, are present at the same time, the observer first estimates the higher system of waves and then repeats the process for the lower system.

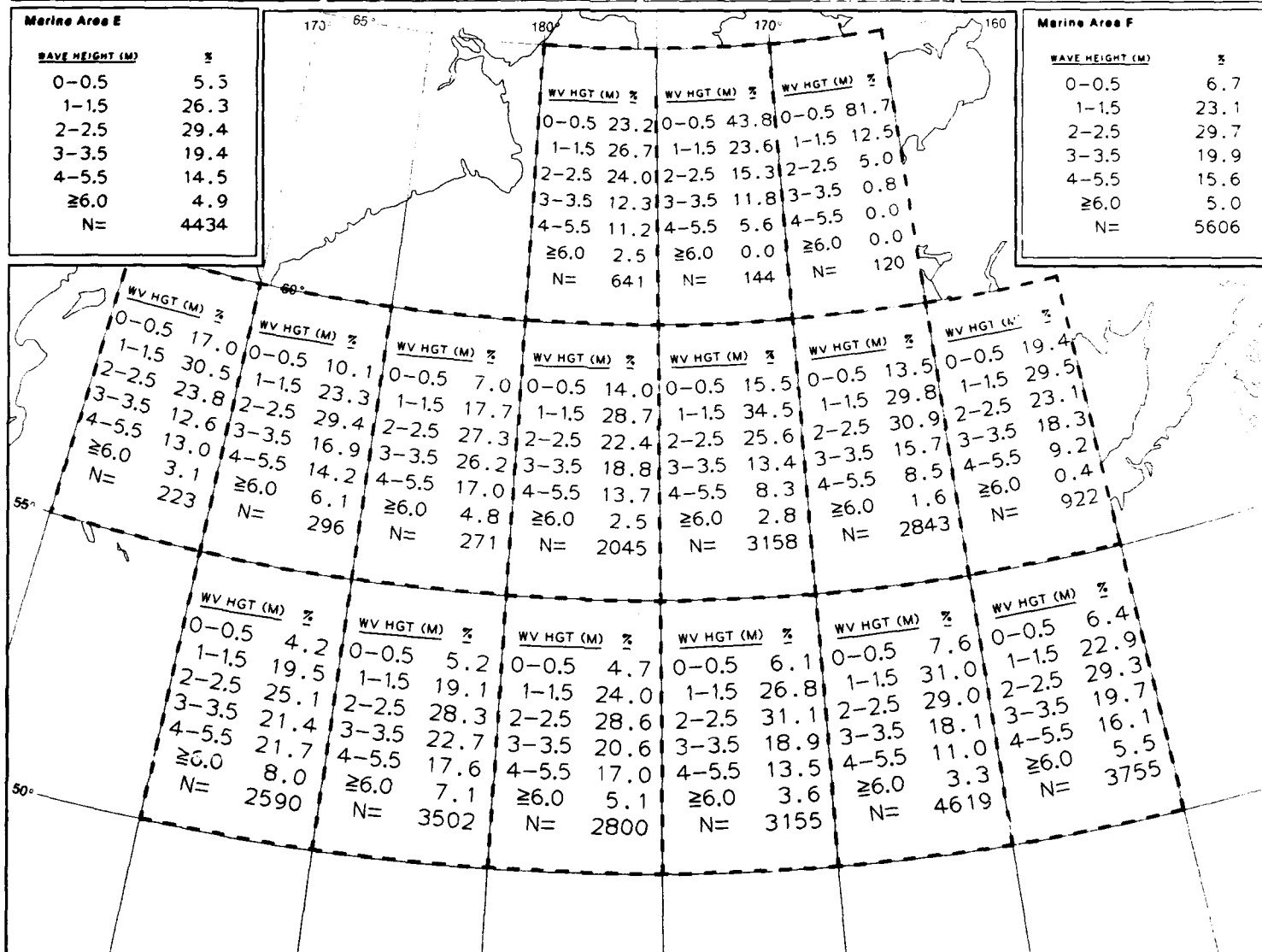
Swell direction may be determined by "eyeball" or by sighting from a compass along wave crests and adding or subtracting 90°. Ship's true heading can also be used to determine the direction from which swells are approaching. The higher the observation point, the easier it is to determine swell direction. The average of several observations, rounded to the nearest 10°, should be used as the observed swell direction. Refer to the texts for Sets 14 and 18-21 for complete information on waves.



January

21 Wave Height Thresholds

Marine Area A		Marine Area B		Marine Area C		Marine Area D	
WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%
0-0.5	34.0	0-0.5	14.7	0-0.5	14.9	0-0.5	7.2
1-1.5	24.4	1-1.5	32.8	1-1.5	28.4	1-1.5	29.3
2-2.5	20.2	2-2.5	24.7	2-2.5	28.9	2-2.5	29.6
3-3.5	10.9	3-3.5	15.1	3-3.5	17.2	3-3.5	18.5
4-5.5	8.8	4-5.5	10.1	4-5.5	9.3	4-5.5	12.3
≥6.0	1.8	≥6.0	2.6	≥6.0	1.3	≥6.0	3.1
N=	901	N=	5581	N=	3324	N=	6139

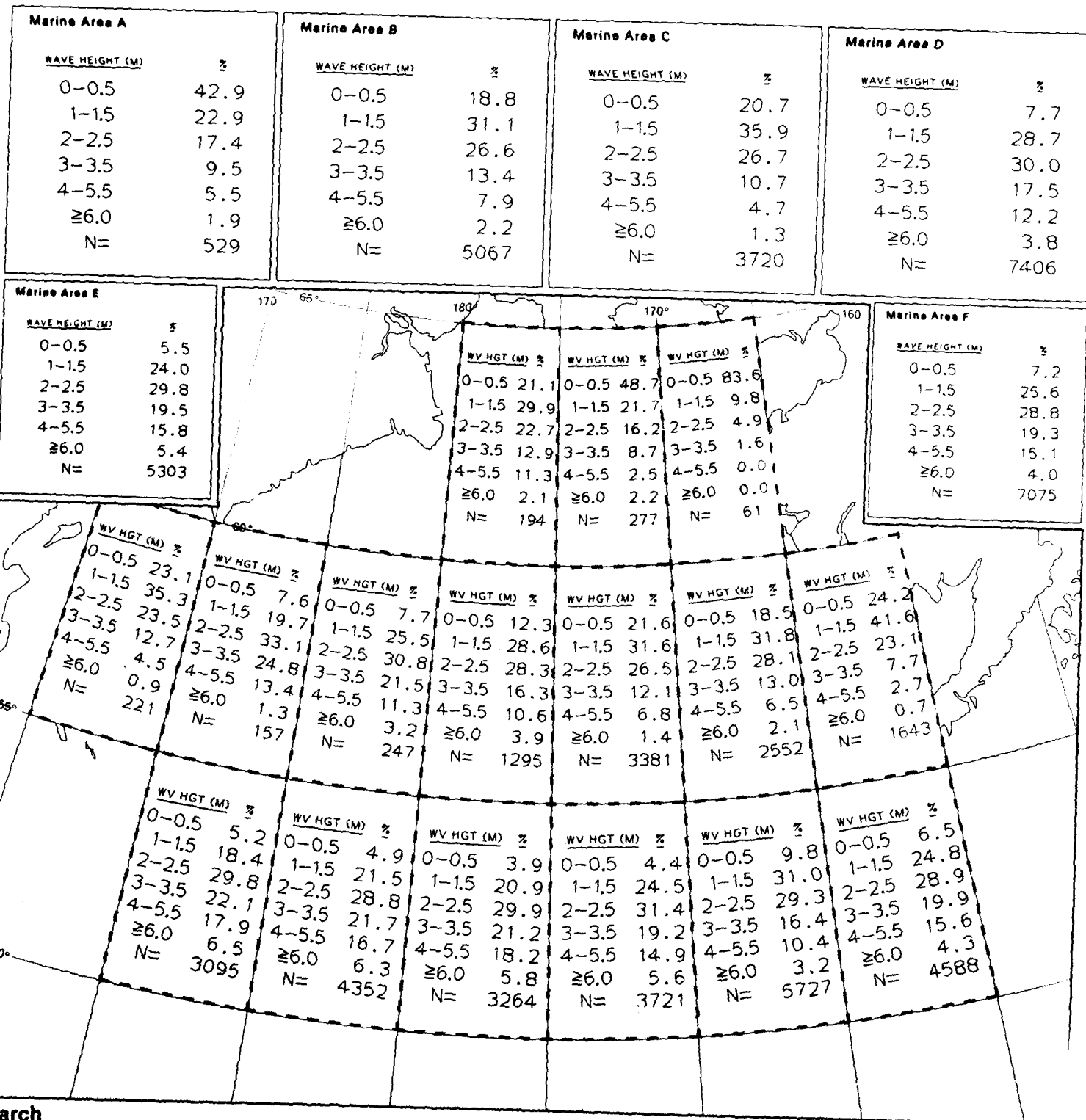


21 Wave Height Thresholds

February

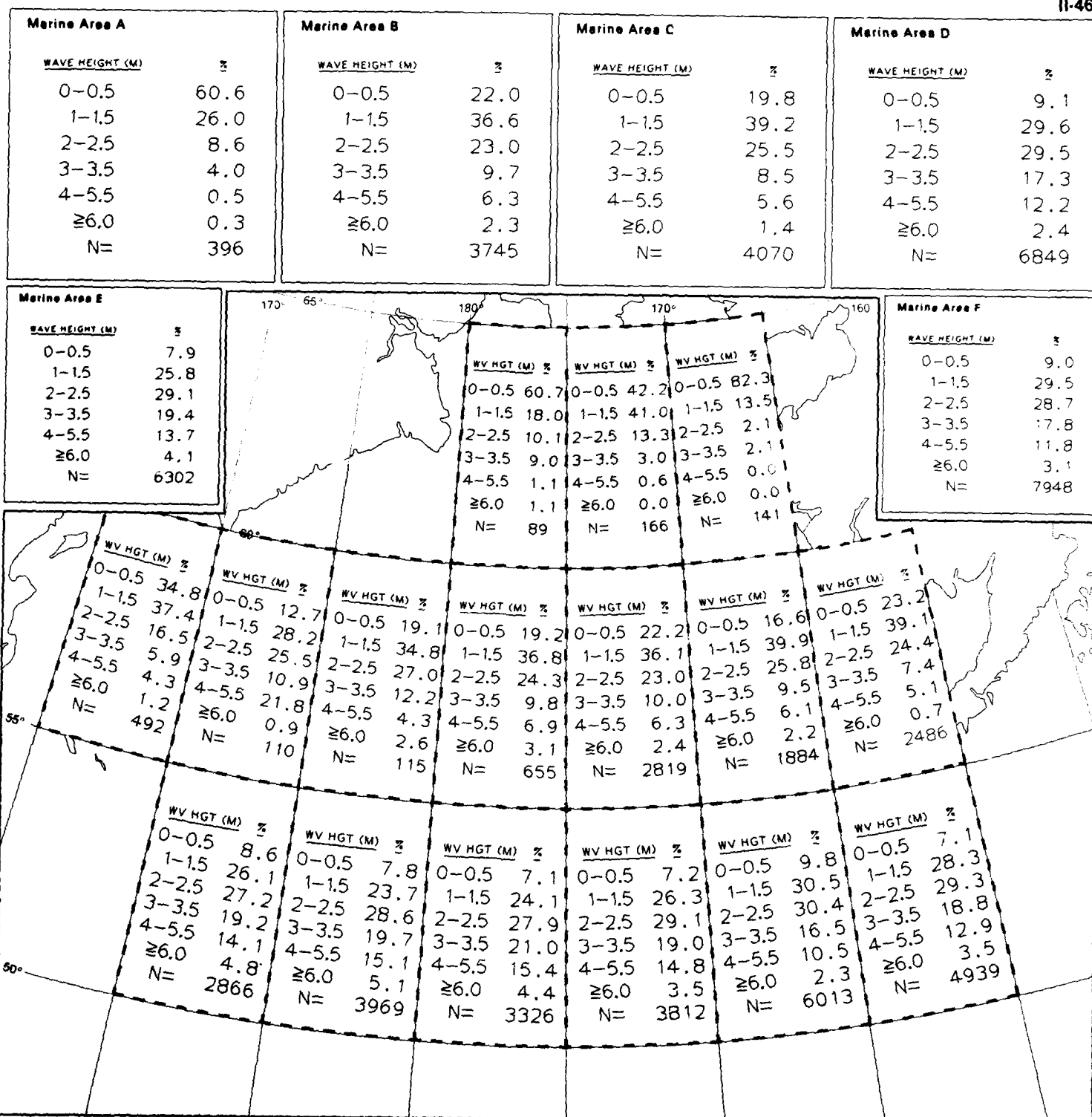


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March

21 Wave Height Thresholds

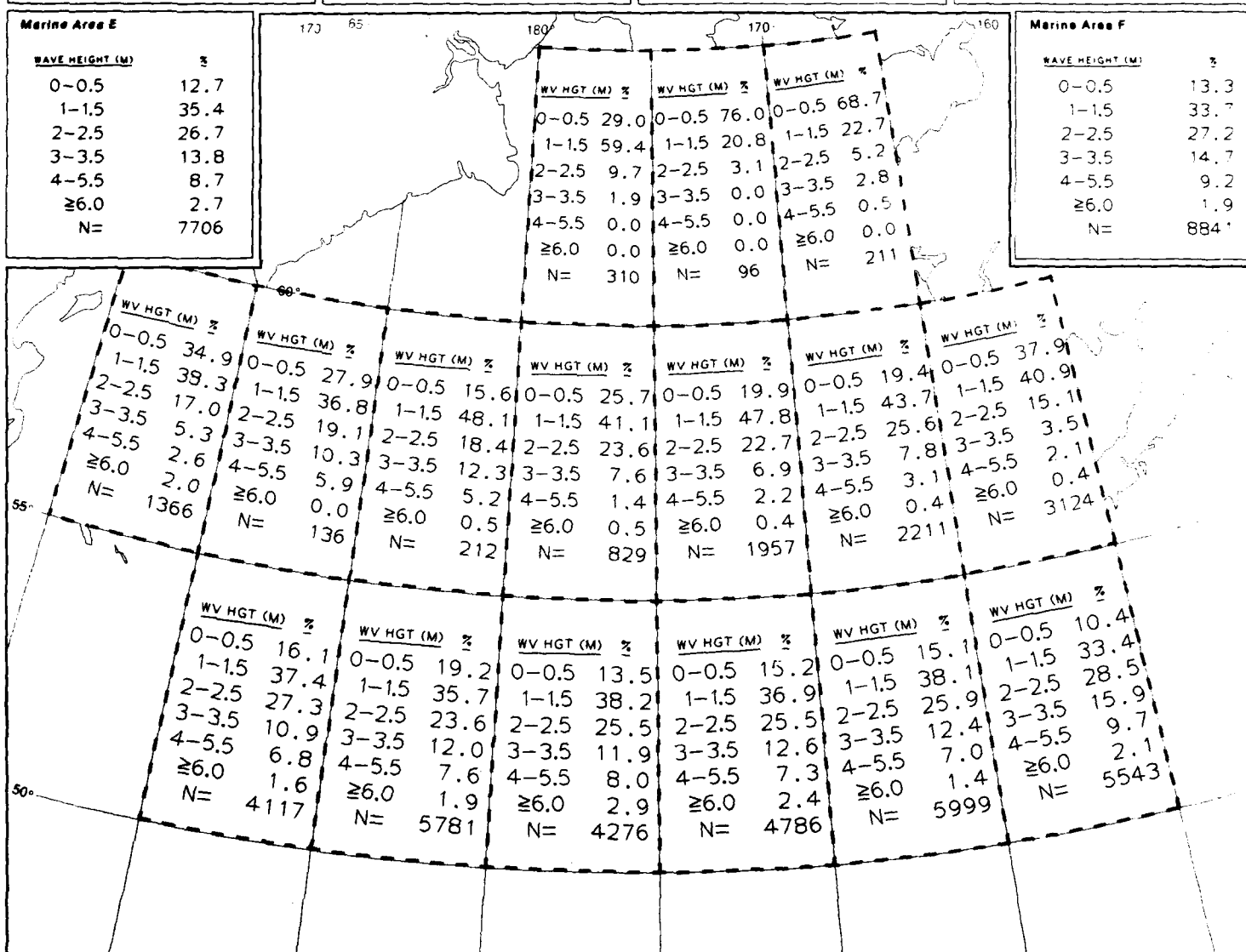


21 Wave Height Thresholds

April

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Marine Area A		Marine Area B		Marine Area C		Marine Area D	
WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%
0-0.5	49.7	0-0.5	22.0	0-0.5	30.1	0-0.5	17.2
1-1.5	41.0	1-1.5	45.3	1-1.5	42.7	1-1.5	40.5
2-2.5	7.2	2-2.5	22.9	2-2.5	19.3	2-2.5	24.3
3-3.5	2.0	3-3.5	7.3	3-3.5	5.1	3-3.5	10.7
4-5.5	0.2	4-5.5	2.1	4-5.5	2.4	4-5.5	5.8
≥6.0	0.0	≥6.0	0.4	≥6.0	0.4	≥6.0	1.5
N=	598	N=	3032	N=	5197	N=	7342



May

21 Wave Height Thresho

Marine Area A		Marine Area B		Marine Area C		Marine Area D	
WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%	WAVE HEIGHT (M)	%
0-0.5	48.8	0-0.5	26.9	0-0.5	33.8	0-0.5	22.6
1-1.5	36.2	1-1.5	47.1	1-1.5	46.3	1-1.5	46.5
2-2.5	11.1	2-2.5	20.5	2-2.5	15.9	2-2.5	21.2
3-3.5	2.8	3-3.5	4.1	3-3.5	2.6	3-3.5	6.4
4-5.5	0.8	4-5.5	1.3	4-5.5	1.3	4-5.5	3.0
≥6.0	0.2	≥6.0	0.0	≥6.0	0.0	≥6.0	0.3
N=	1511	N=	3482	N=	5175	N=	7150

Marine Area E	
WAVE HEIGHT (M)	%
0-0.5	16.4
1-1.5	40.9
2-2.5	27.5
3-3.5	10.2
4-5.5	4.2
≥6.0	0.8
N=	8053

WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	38.1	0-0.5	62.0	0-0.5	49.8
1-1.5	45.3	1-1.5	30.2	1-1.5	30.8
2-2.5	13.6	2-2.5	6.4	2-2.5	13.0
3-3.5	2.2	3-3.5	1.1	3-3.5	4.8
4-5.5	0.5	4-5.5	0.3	4-5.5	1.4
≥6.0	0.2	≥6.0	0.0	≥6.0	0.2
N=	806	N=	374	N=	568

Marine Area F	
WAVE HEIGHT (M)	%
0-0.5	15.8
1-1.5	42.7
2-2.5	27.7
3-3.5	9.3
4-5.5	4.1
≥6.0	0.4
N=	8441

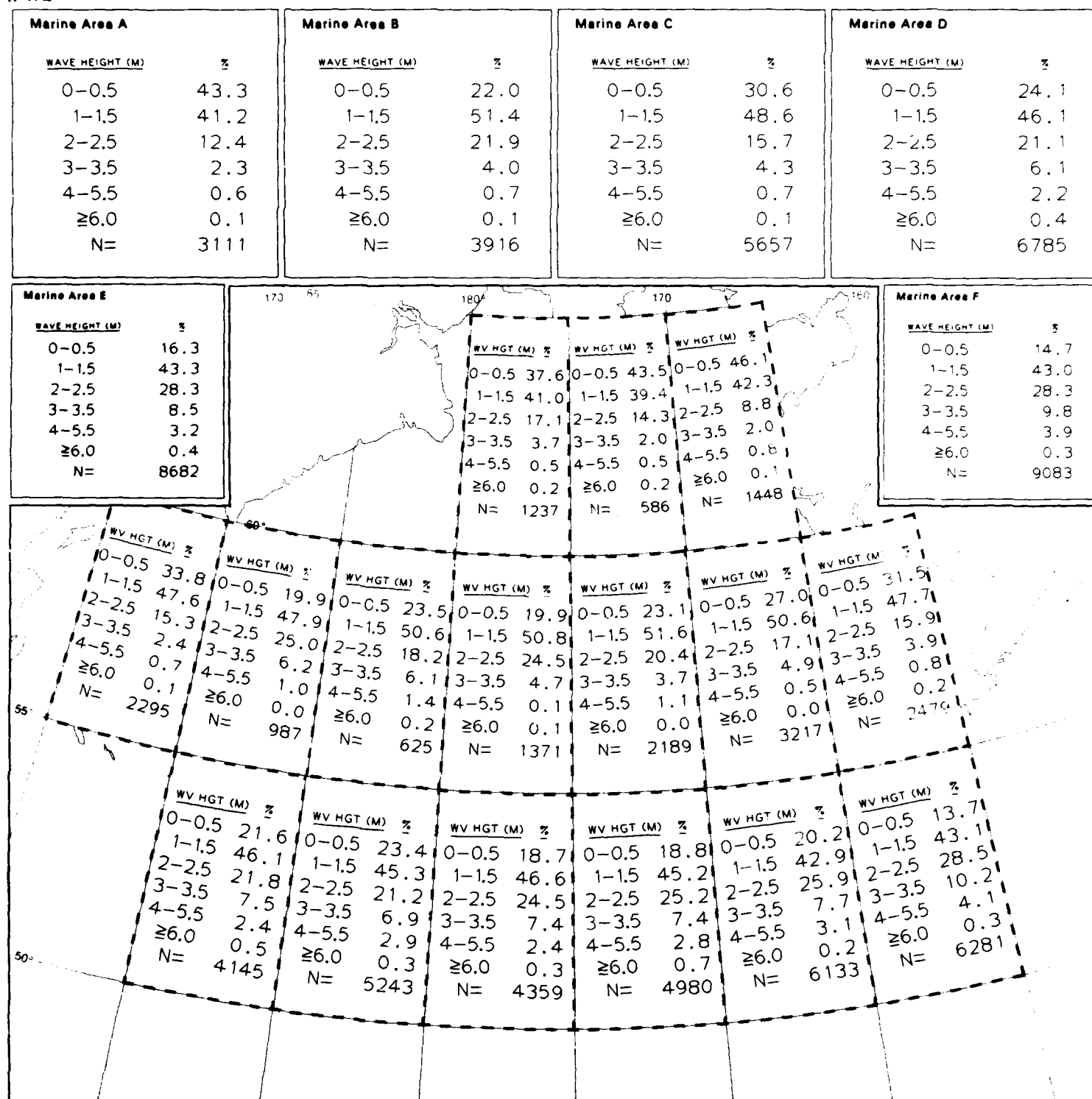
WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	33.1	0-0.5	28.8	0-0.5	26.6	0-0.5	29.9	0-0.5	24.0	0-0.5	26.5	0-0.5	36.7
1-1.5	48.2	1-1.5	54.8	1-1.5	46.2	1-1.5	46.2	1-1.5	48.5	1-1.5	47.7	1-1.5	46.3
2-2.5	14.9	2-2.5	11.2	2-2.5	19.1	2-2.5	19.0	2-2.5	22.0	2-2.5	20.5	2-2.5	13.3
3-3.5	2.6	3-3.5	4.6	3-3.5	7.6	3-3.5	3.5	3-3.5	4.4	3-3.5	4.0	3-3.5	2.0
4-5.5	1.3	4-5.5	0.4	4-5.5	0.3	4-5.5	1.4	4-5.5	1.0	4-5.5	1.2	4-5.5	1.7
≥6.0	0.0	≥6.0	0.2	≥6.0	0.3	≥6.0	0.0	≥6.0	0.1	≥6.0	0.0	≥6.0	0.1
N=	1487	N=	500	N=	383	N=	1313	N=	1731	N=	2215	N=	2951

WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	21.9	0-0.5	22.1	0-0.5	17.3	0-0.5	19.8	0-0.5	19.7	0-0.5	14.1
1-1.5	44.4	1-1.5	42.5	1-1.5	44.4	1-1.5	44.2	1-1.5	42.4	1-1.5	42.6
2-2.5	22.8	2-2.5	23.1	2-2.5	25.4	2-2.5	23.8	2-2.5	24.9	2-2.5	29.2
3-3.5	7.2	3-3.5	8.7	3-3.5	8.8	3-3.5	7.9	3-3.5	8.6	3-3.5	9.4
4-5.5	3.0	4-5.5	3.0	4-5.5	3.7	4-5.5	3.7	4-5.5	3.7	4-5.5	4.3
≥6.0	0.8	≥6.0	0.5	≥6.0	0.4	≥6.0	0.6	≥6.0	0.7	≥6.0	0.4
N=	5168	N=	6335	N=	5044	N=	4539	N=	5621	N=	5795

21 Wave Height Thresholds

Jur



July

21 Wave Height Thresholds

Marine Area A	
WAVE HEIGHT (M)	%
0-0.5	33.9
1-1.5	42.4
2-2.5	17.4
3-3.5	4.7
4-5.5	1.5
≥6.0	0.1
N=	2895

Marine Area B	
WAVE HEIGHT (M)	%
0-0.5	16.4
1-1.5	48.3
2-2.5	23.8
3-3.5	7.0
4-5.5	2.9
≥6.0	1.6
N=	2708

Marine Area C	
WAVE HEIGHT (M)	%
0-0.5	20.5
1-1.5	50.9
2-2.5	21.9
3-3.5	4.9
4-5.5	1.4
≥6.0	0.3
N=	5072

Marine Area D	
WAVE HEIGHT (M)	%
0-0.5	18.2
1-1.5	43.7
2-2.5	24.8
3-3.5	8.8
4-5.5	3.8
≥6.0	0.7
N=	6807

Marine Area E	
WAVE HEIGHT (M)	%
0-0.5	13.6
1-1.5	39.2
2-2.5	30.1
3-3.5	11.5
4-5.5	4.9
≥6.0	0.8
N=	10019

WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	32.2	0-0.5	40.2	0-0.5	37.0
1-1.5	40.8	1-1.5	36.6	1-1.5	45.1
2-2.5	19.7	2-2.5	17.6	2-2.5	13.2
3-3.5	5.8	3-3.5	4.0	3-3.5	3.1
4-5.5	1.4	4-5.5	1.4	4-5.5	1.4
≥6.0	0.1	≥6.0	0.2	≥6.0	0.2
N=	1530	N=	579	N=	1075

Marine Area F	
WAVE HEIGHT (M)	%
0-0.5	11.6
1-1.5	39.5
2-2.5	30.4
3-3.5	12.5
4-5.5	5.3
≥6.0	0.7
N=	9003

WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	29.0	0-0.5	21.2	0-0.5	13.9	0-0.5	14.4	0-0.5	16.2	0-0.5	18.3	0-0.5	23.6	0-0.5	23.6
1-1.5	44.4	1-1.5	49.9	1-1.5	40.3	1-1.5	48.2	1-1.5	47.5	1-1.5	52.5	1-1.5	49.1	1-1.5	49.1
2-2.5	19.5	2-2.5	21.9	2-2.5	34.2	2-2.5	27.8	2-2.5	23.6	2-2.5	21.6	2-2.5	21.5	2-2.5	21.5
3-3.5	4.9	3-3.5	5.4	3-3.5	10.0	3-3.5	6.8	3-3.5	7.5	3-3.5	5.8	3-3.5	3.7	3-3.5	3.7
4-5.5	2.1	4-5.5	1.7	4-5.5	1.7	4-5.5	2.7	4-5.5	3.1	4-5.5	1.4	4-5.5	1.5	4-5.5	1.5
≥6.0	0.0	≥6.0	0.0	≥6.0	0.0	≥6.0	0.1	≥6.0	2.2	≥6.0	0.4	≥6.0	0.6	≥6.0	0.6
N=	1740	N=	411	N=	231	N=	867	N=	1573	N=	3049	N=	2271	N=	2271
WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	15.7	0-0.5	19.0	0-0.5	14.6	0-0.5	16.3	0-0.5	14.8	0-0.5	11.1	0-0.5	11.1	0-0.5	11.1
1-1.5	40.7	1-1.5	41.5	1-1.5	41.0	1-1.5	40.4	1-1.5	41.7	1-1.5	40.1	1-1.5	40.1	1-1.5	40.1
2-2.5	27.8	2-2.5	25.3	2-2.5	28.7	2-2.5	27.0	2-2.5	28.6	2-2.5	30.0	2-2.5	30.0	2-2.5	30.0
3-3.5	10.3	3-3.5	9.4	3-3.5	10.6	3-3.5	10.9	3-3.5	9.9	3-3.5	12.7	3-3.5	12.7	3-3.5	12.7
4-5.5	5.1	4-5.5	4.3	4-5.5	4.1	4-5.5	4.6	4-5.5	4.5	4-5.5	5.3	4-5.5	5.3	4-5.5	5.3
≥6.0	0.4	≥6.0	0.5	≥6.0	0.9	≥6.0	0.8	≥6.0	0.6	≥6.0	0.8	≥6.0	0.8	≥6.0	0.8
N=	3351	N=	5183	N=	4654	N=	5503	N=	6669	N=	6308	N=	6308	N=	6308

21 Wave Height Thresholds

Aug

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Marine Area A

WAVE HEIGHT (M)	%
0-0.5	30.7
1-1.5	42.6
2-2.5	17.4
3-3.5	5.8
4-5.5	2.9
≥6.0	0.6
N=	2130

Marine Area B

WAVE HEIGHT (M)	%
0-0.5	13.4
1-1.5	43.3
2-2.5	24.1
3-3.5	10.3
4-5.5	6.1
≥6.0	2.8
N=	2240

Marine Area C

WAVE HEIGHT (M)	%
0-0.5	16.4
1-1.5	43.5
2-2.5	26.3
3-3.5	8.7
4-5.5	4.2
≥6.0	0.9
N=	5573

Marine Area D

WAVE HEIGHT (M)	%
0-0.5	13.7
1-1.5	35.6
2-2.5	26.7
3-3.5	13.6
4-5.5	8.2
≥6.0	2.1
N=	6481

Marine Area E

WAVE HEIGHT (M)	%
0-0.5	10.2
1-1.5	35.5
2-2.5	28.9
3-3.5	14.4
4-5.5	8.5
≥6.0	2.4
N=	7585

Marine Area F

WAVE HEIGHT (M)	%
0-0.5	10.6
1-1.5	34.9
2-2.5	29.8
3-3.5	14.9
4-5.5	8.1
≥6.0	1.8
N=	8510

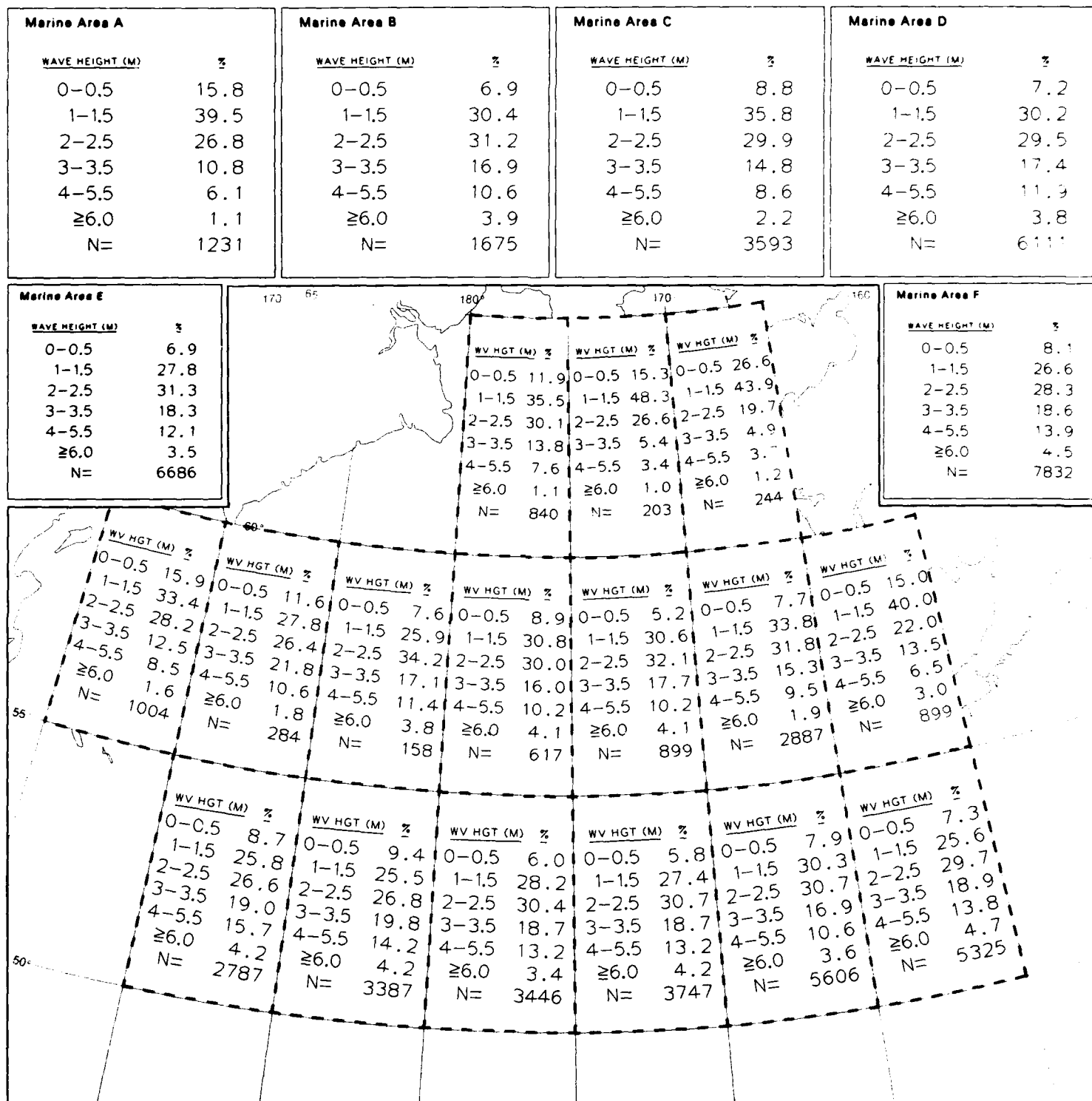
WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	23.1	0-0.5	27.6	0-0.5	31.1
1-1.5	38.2	1-1.5	43.9	1-1.5	45.2
2-2.5	24.0	2-2.5	19.9	2-2.5	16.2
3-3.5	9.9	3-3.5	5.5	3-3.5	4.6
4-5.5	3.8	4-5.5	1.8	4-5.5	2.8
≥6.0	1.1	≥6.0	1.2	≥6.0	0.1
N=	629	N=	492	N=	958

WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	19.3	0-0.5	12.1	0-0.5	9.0	0-0.5	9.4	0-0.5	14.0	0-0.5	13.8	0-0.5	24.5	0-0.5	24.5
1-1.5	41.9	1-1.5	36.3	1-1.5	35.1	1-1.5	37.3	1-1.5	44.9	1-1.5	42.7	1-1.5	45.2	1-1.5	45.2
2-2.5	25.2	2-2.5	29.7	2-2.5	26.6	2-2.5	26.8	2-2.5	24.0	2-2.5	28.3	2-2.5	20.3	2-2.5	20.3
3-3.5	9.5	3-3.5	12.1	3-3.5	14.9	3-3.5	15.6	3-3.5	9.6	3-3.5	9.1	3-3.5	6.6	3-3.5	6.6
4-5.5	3.7	4-5.5	9.5	4-5.5	10.6	4-5.5	9.3	4-5.5	4.9	4-5.5	4.8	4-5.5	2.6	4-5.5	2.6
≥6.0	0.4	≥6.0	0.3	≥6.0	3.7	≥6.0	1.7	≥6.0	2.6	≥6.0	1.3	≥6.0	0.8	≥6.0	0.8
N=	1176	N=	380	N=	188	N=	604	N=	1361	N=	4054	N=	1922	N=	1922

WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%	WV HGT (M)	%
0-0.5	11.7	0-0.5	15.6	0-0.5	10.8	0-0.5	11.8	0-0.5	12.2	0-0.5	9.5	0-0.5	9.5	0-0.5	9.5
1-1.5	34.3	1-1.5	35.8	1-1.5	35.2	1-1.5	33.8	1-1.5	36.8	1-1.5	35.3	1-1.5	35.3	1-1.5	35.3
2-2.5	30.3	2-2.5	28.3	2-2.5	28.5	2-2.5	27.9	2-2.5	27.9	2-2.5	30.2	2-2.5	30.2	2-2.5	30.2
3-3.5	14.7	3-3.5	11.8	3-3.5	14.5	3-3.5	14.4	3-3.5	13.7	3-3.5	15.1	3-3.5	15.1	3-3.5	15.1
4-5.5	7.7	4-5.5	7.0	4-5.5	8.9	4-5.5	9.4	4-5.5	7.4	4-5.5	8.1	4-5.5	8.1	4-5.5	8.1
≥6.0	1.3	≥6.0	1.5	≥6.0	2.1	≥6.0	2.8	≥6.0	1.9	≥6.0	1.7	≥6.0	1.7	≥6.0	1.7
N=	2750	N=	4339	N=	3903	N=	4335	N=	5833	N=	5868	N=	5868	N=	5868

September

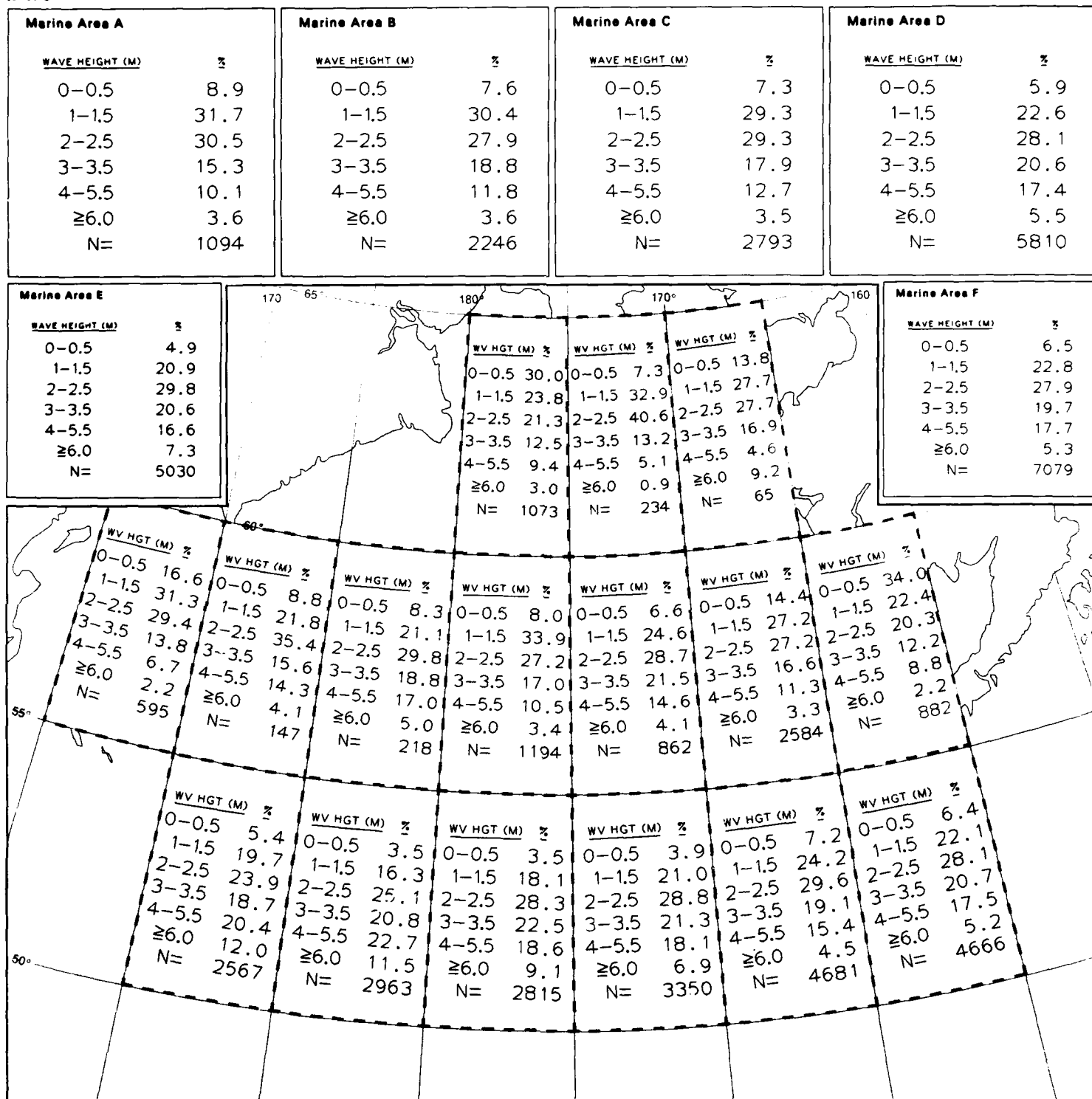
21 Wave Height Thresholds



21 Wave Height Thresholds

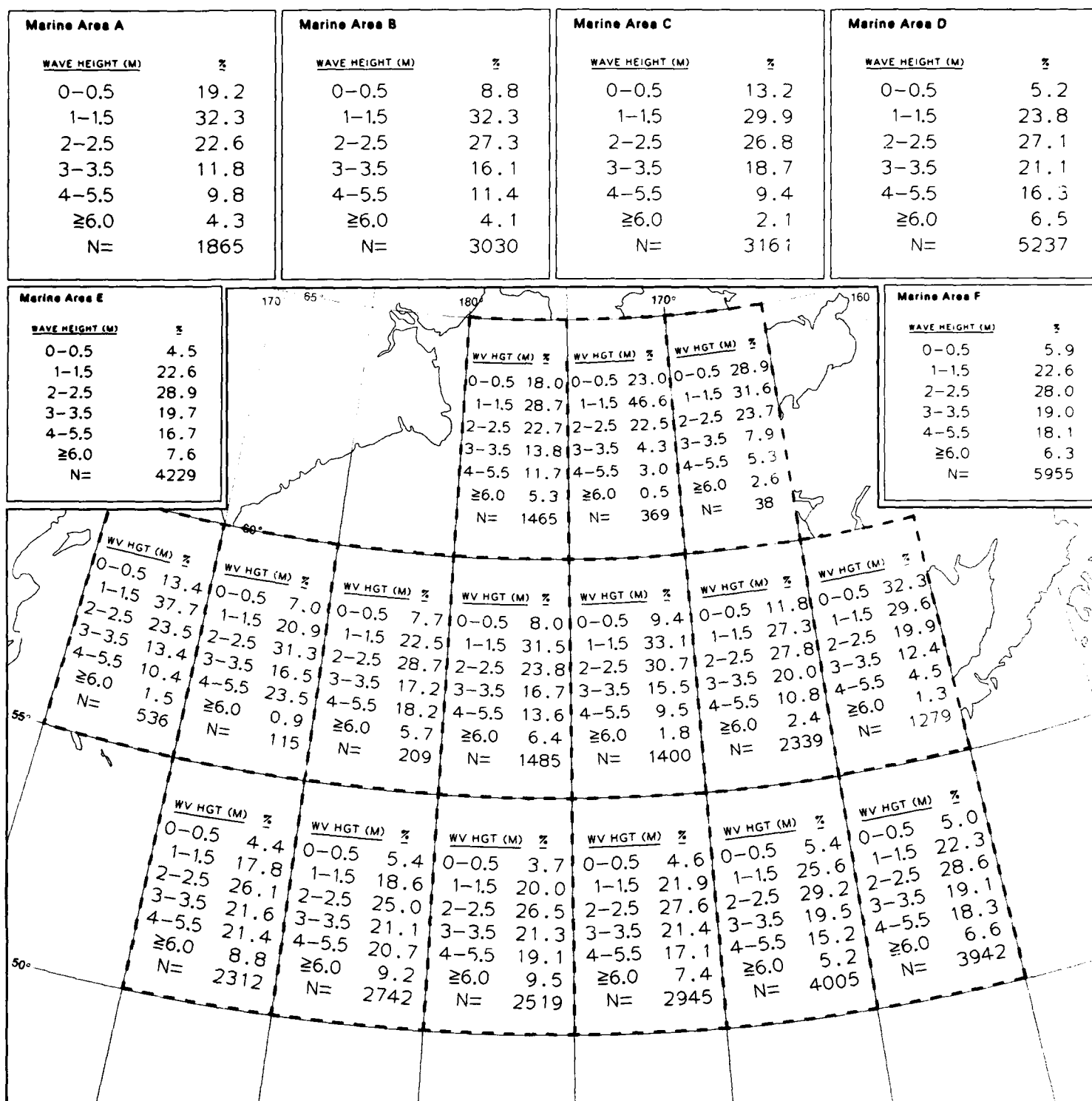
October





November

21 Wave Height Thresholds



21 Wave Height Thresholds

December

II-478

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22 Legend

Legend 22

## Map 22. Low pressure center movement

ROSE – Percent frequency of low pressure center movement.

BLACK ARROWS – Preferred storm tracks (solid for primary tracks, dashed for secondary tracks).

Exact Cylindrical Equidistant Projection

Six hour movements of low pressure centers considering only closed circulations.

Mean speed: Printed figures at the end of each bar represent the mean speed of movement (in knots) toward the indicated direction.

(Low pressure centers moving toward the N had a mean speed of 12 knots.)

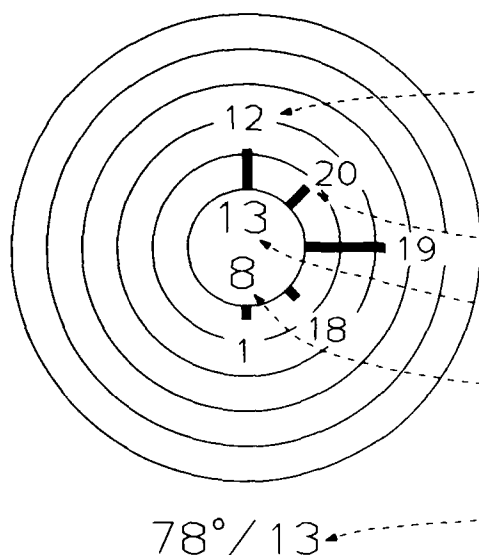
Direction frequency: Bars represent percent frequency of six hour movements toward each direction. Each circle represents 20%.

(18% of all six hour movements were toward the NE.)

(Statistics for this rose are based on 13 six hour movements.)

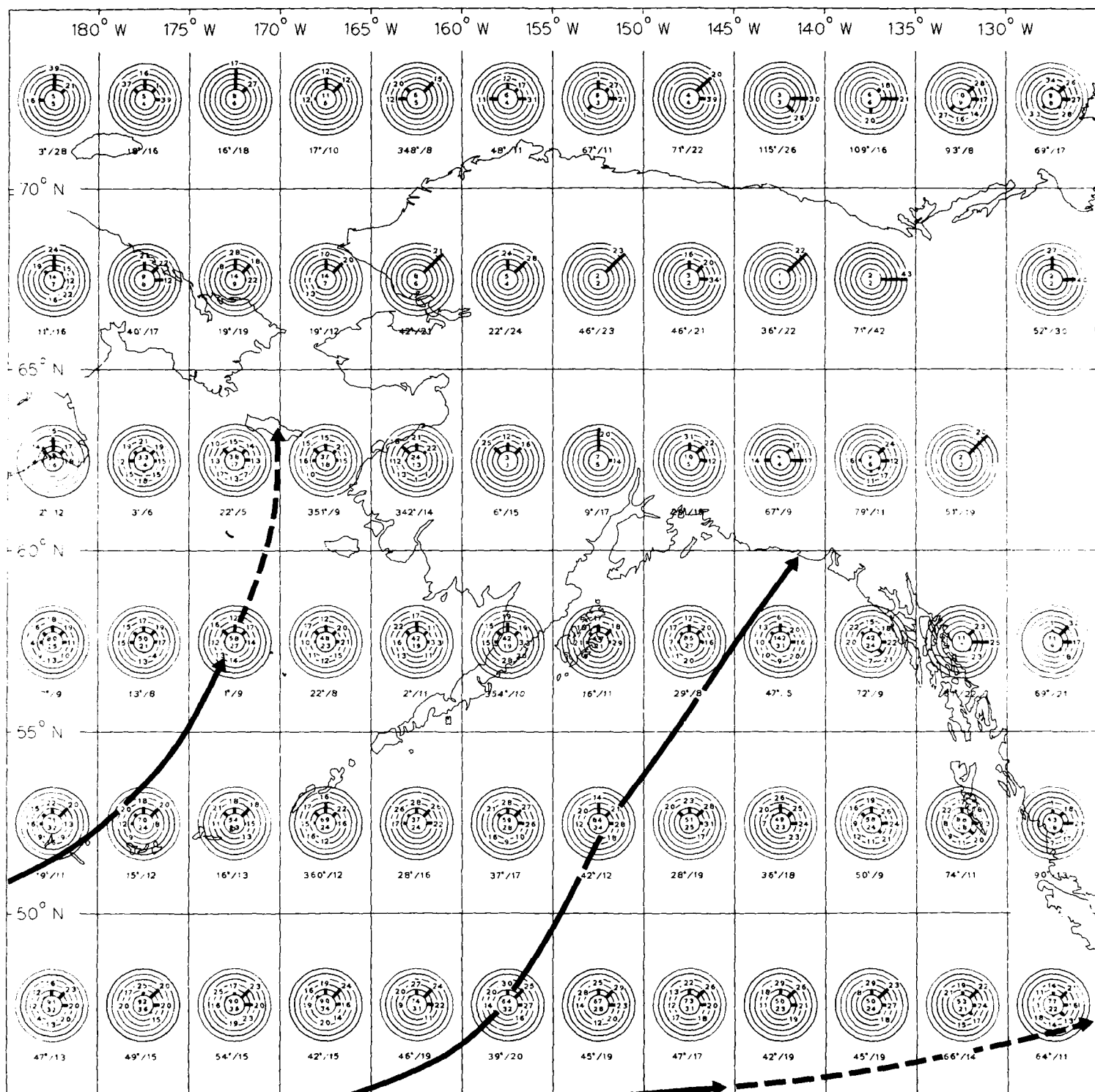
(8 low pressure centers were observed in the 5° X 5° area during the 20 year period of record 1/66-12/85.)

(Mean vector movement of all centers was toward 78° (ENE) at 13 knots.)



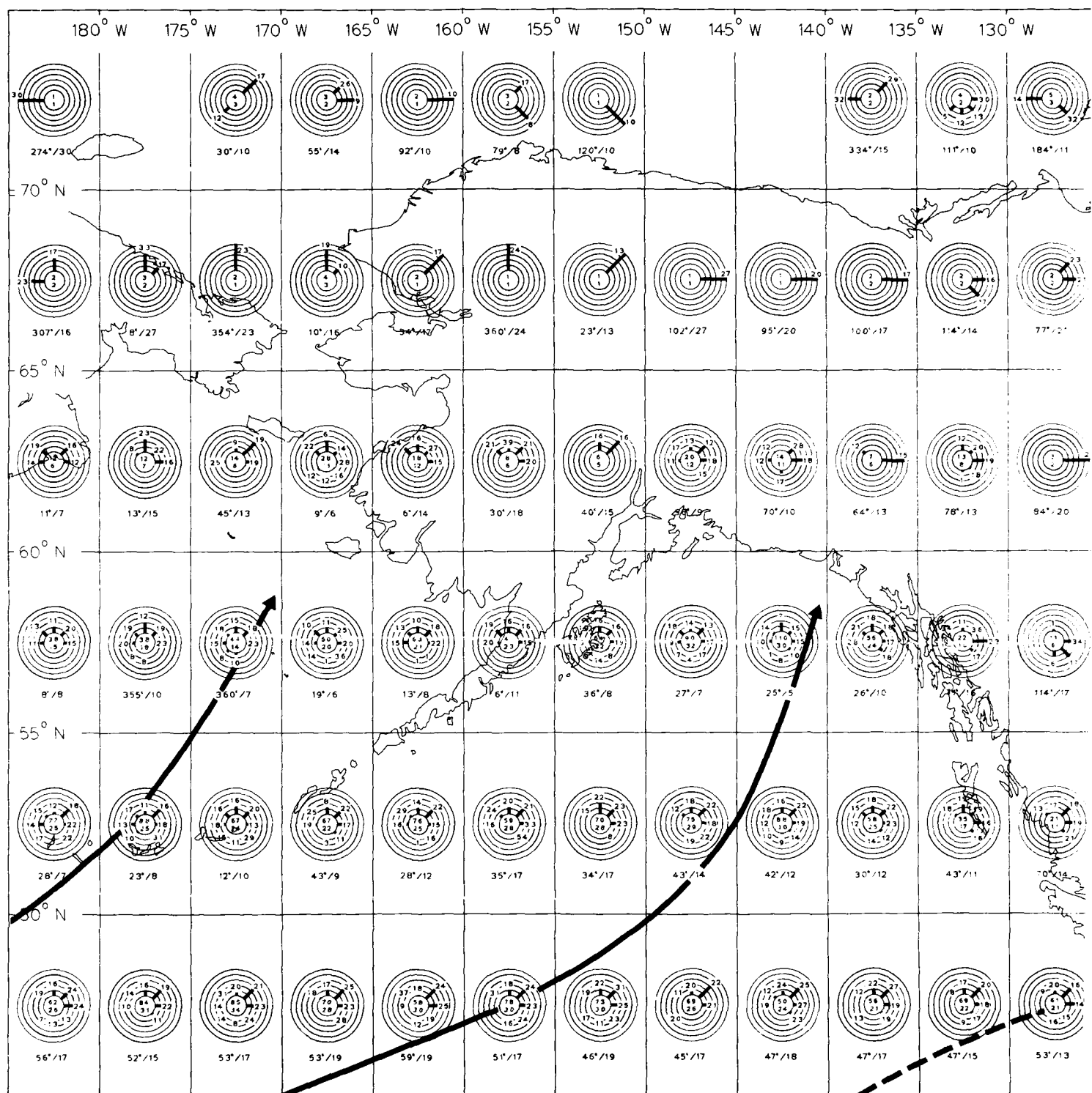
78°/13

Refer to the introductory text for Section II for more information on low pressure center movement and preferred storm tracks.



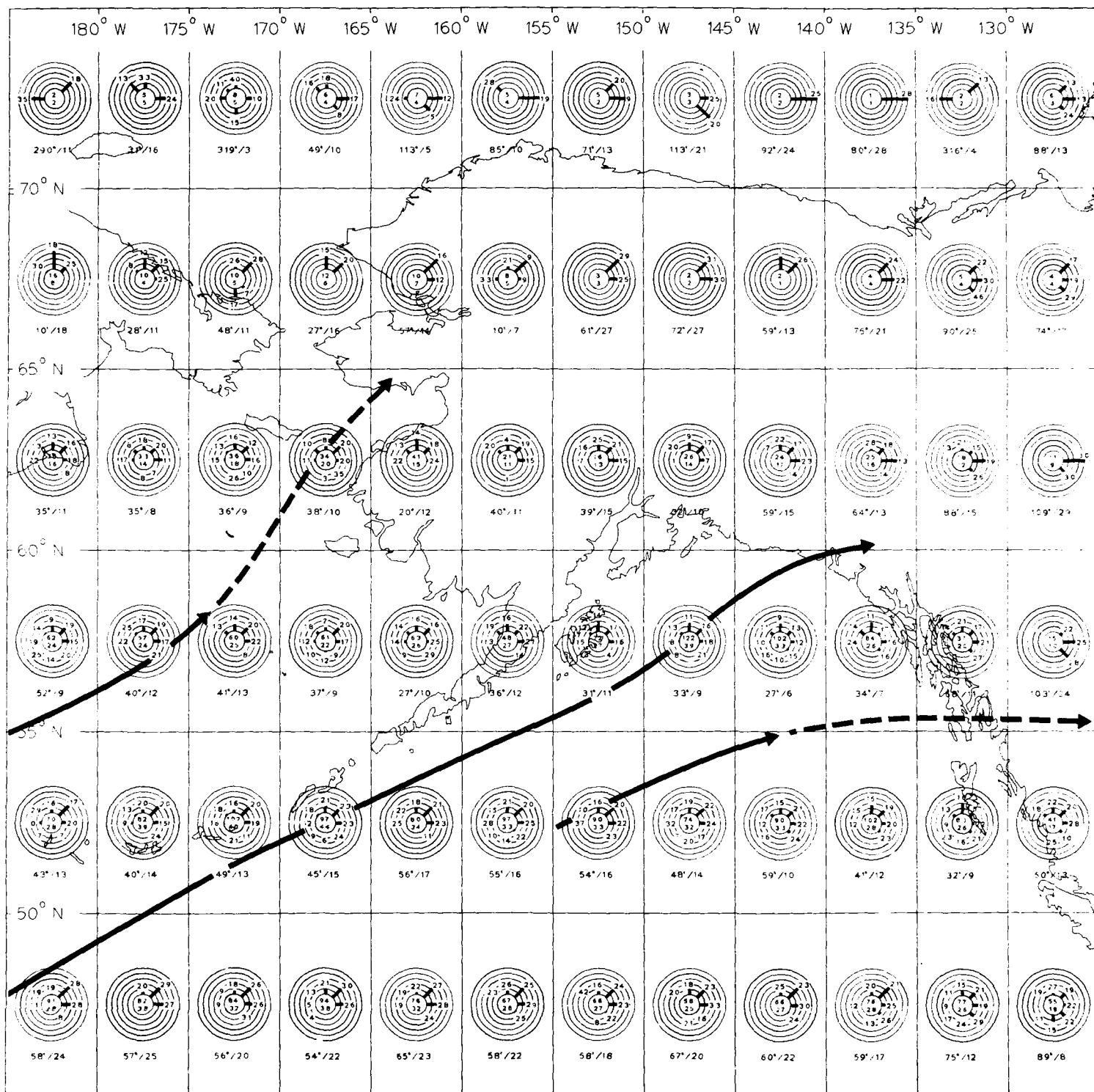
January

22 Low pressure center movement



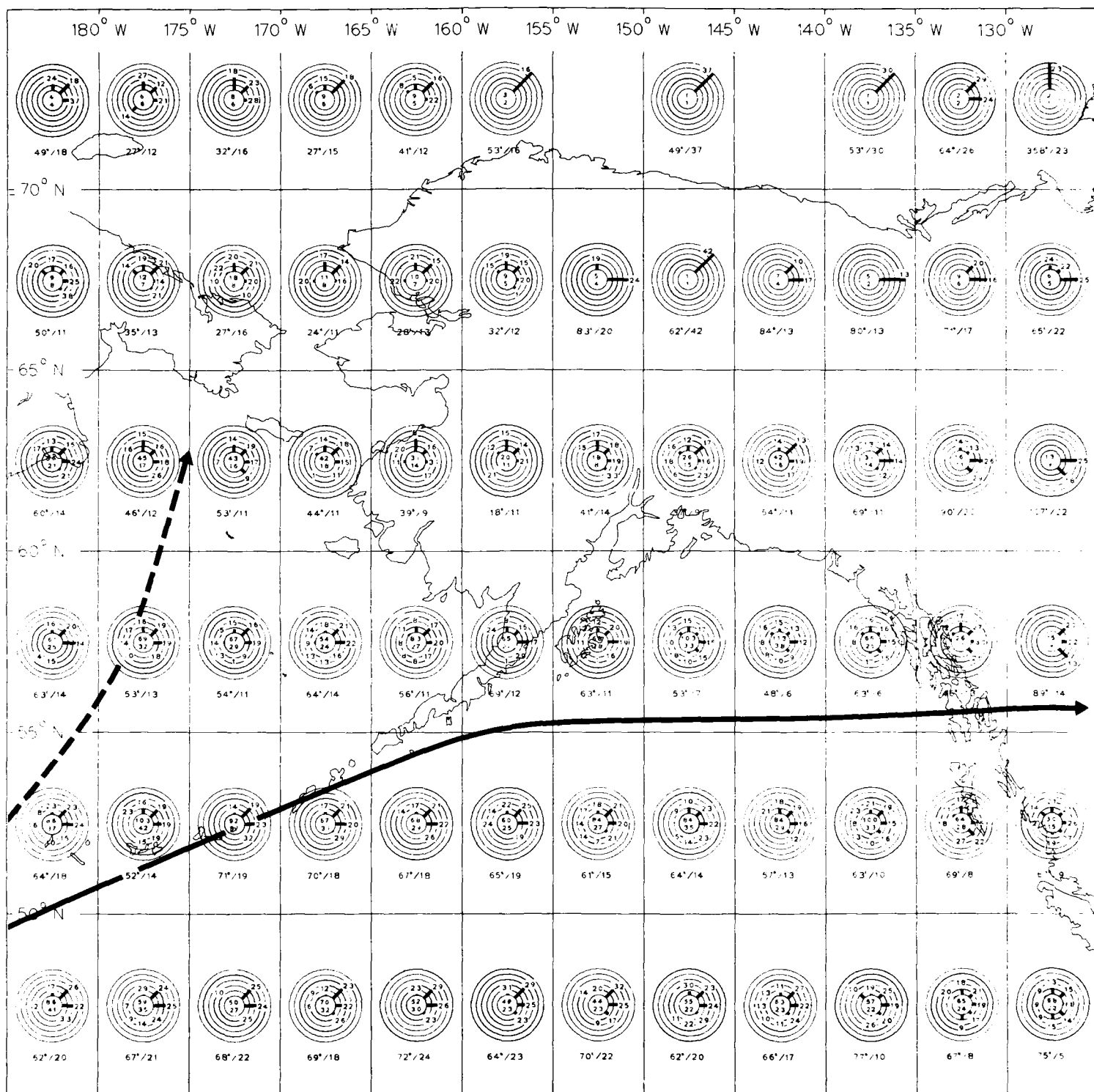
22 Low pressure center movement

February



March

22 Low pressure center movement

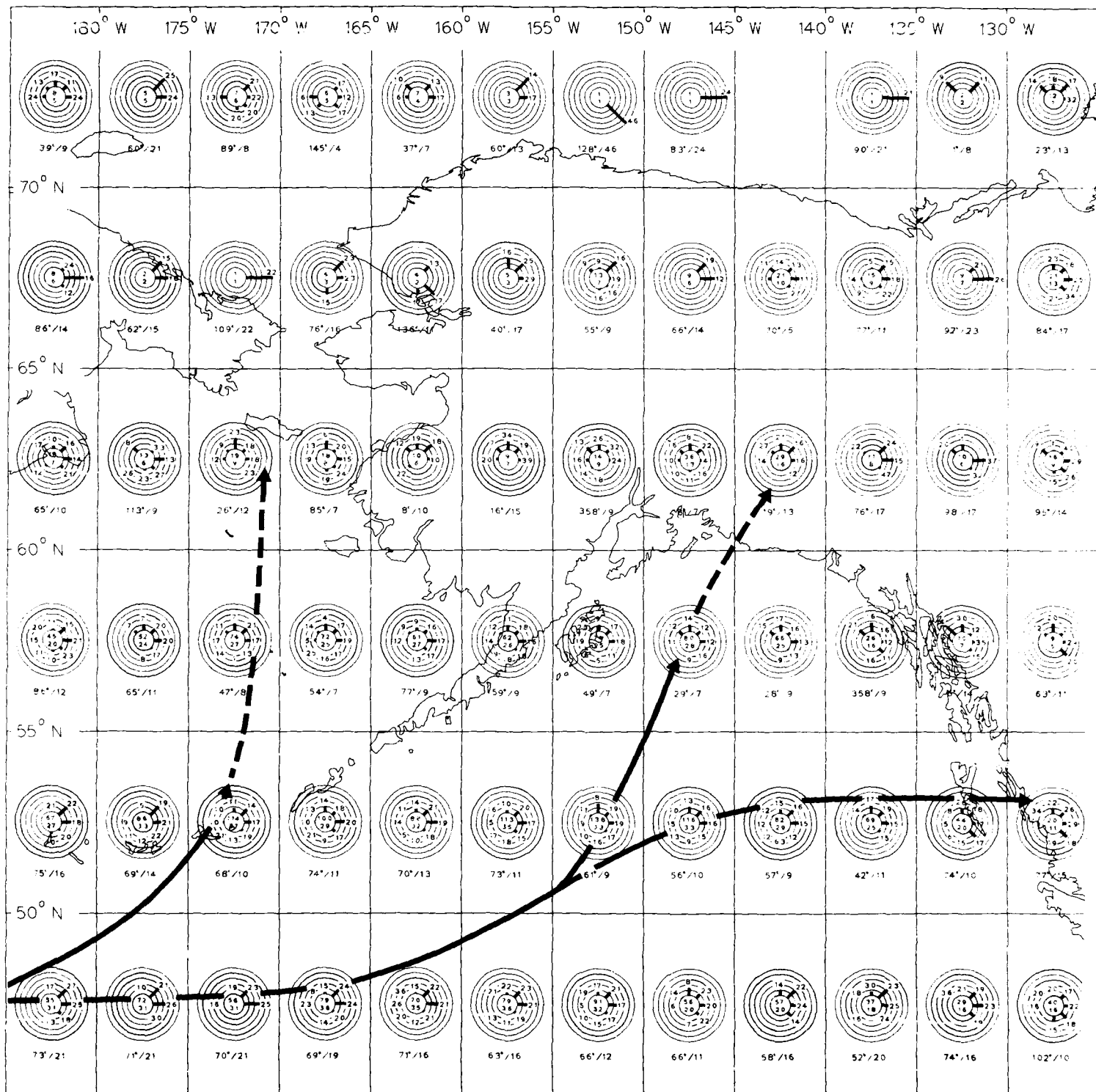


22 Low pressure center movement

April

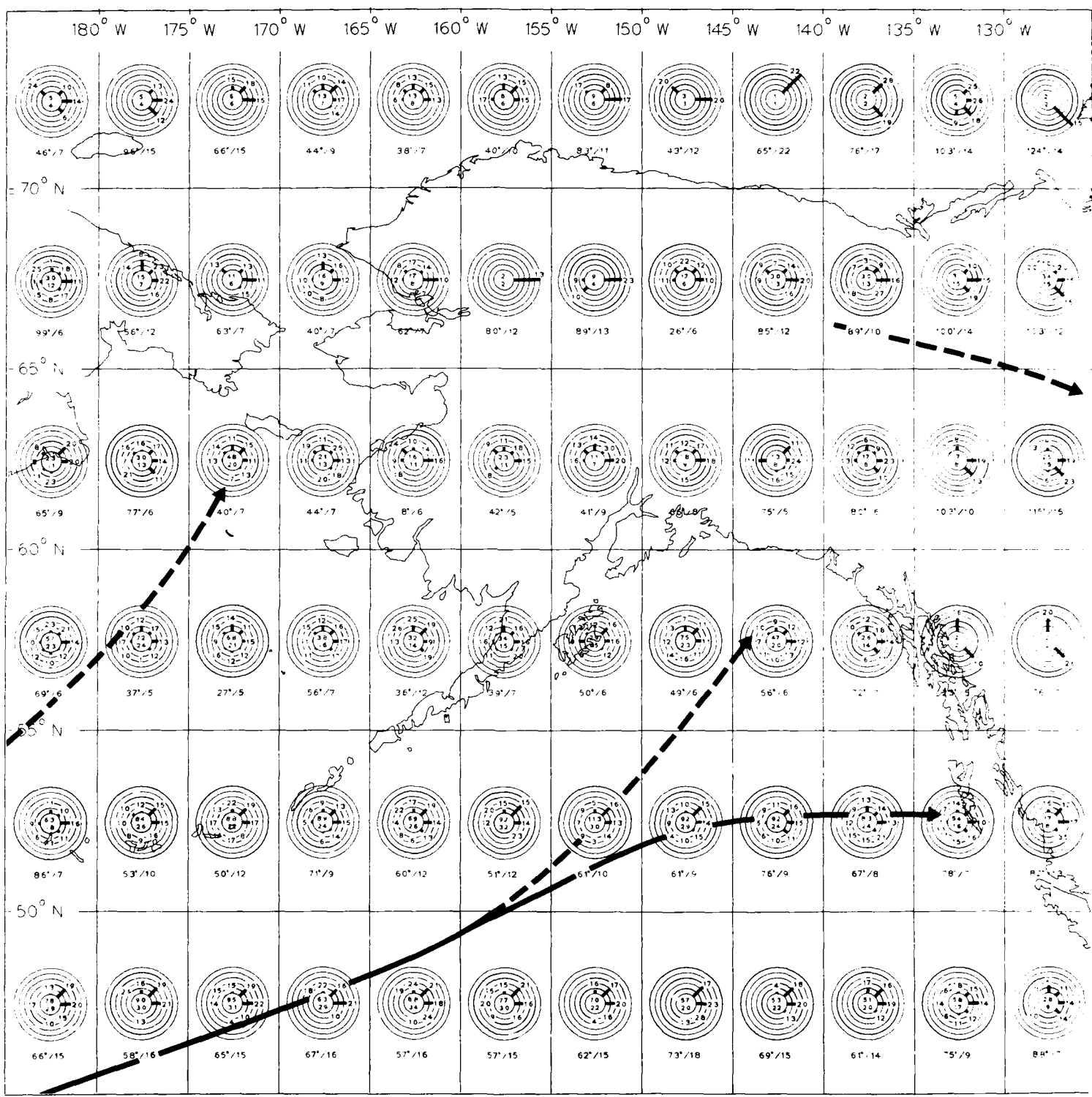


11-484



May

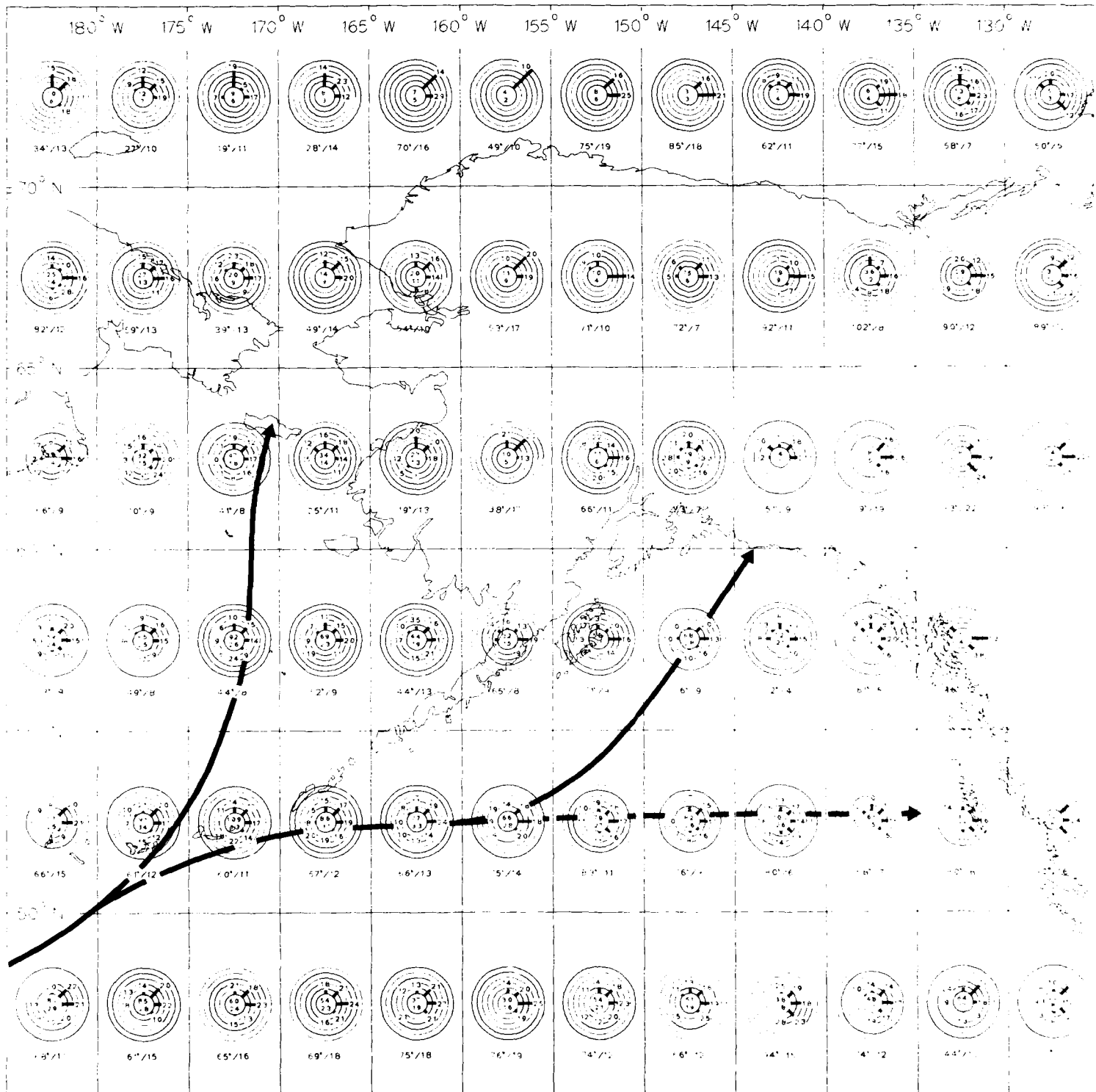
22 Low pressure center movement



22 Low pressure center movement

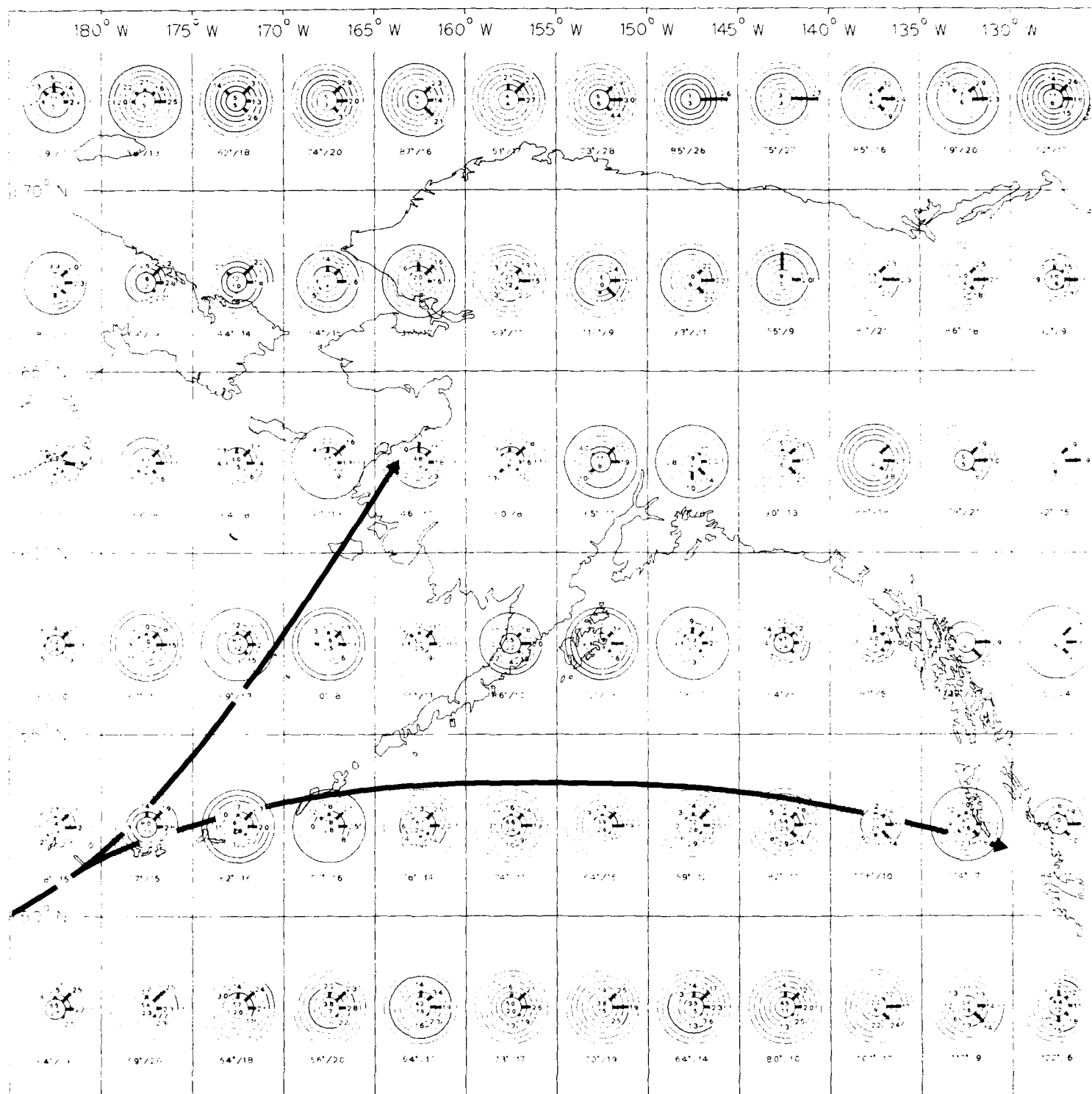
June

11-486



July

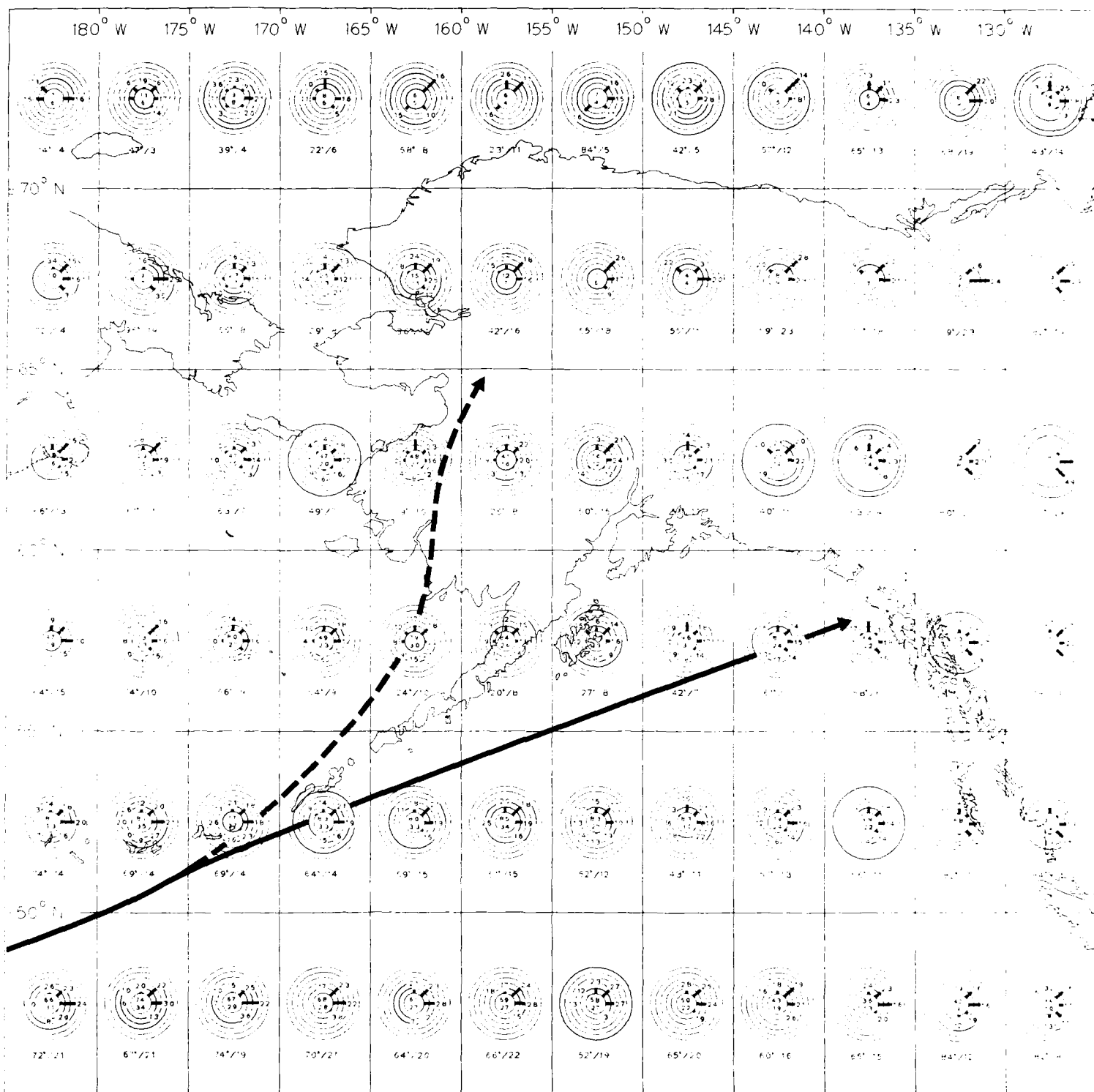
22 Low pressure center movement



22 Low pressure center movement

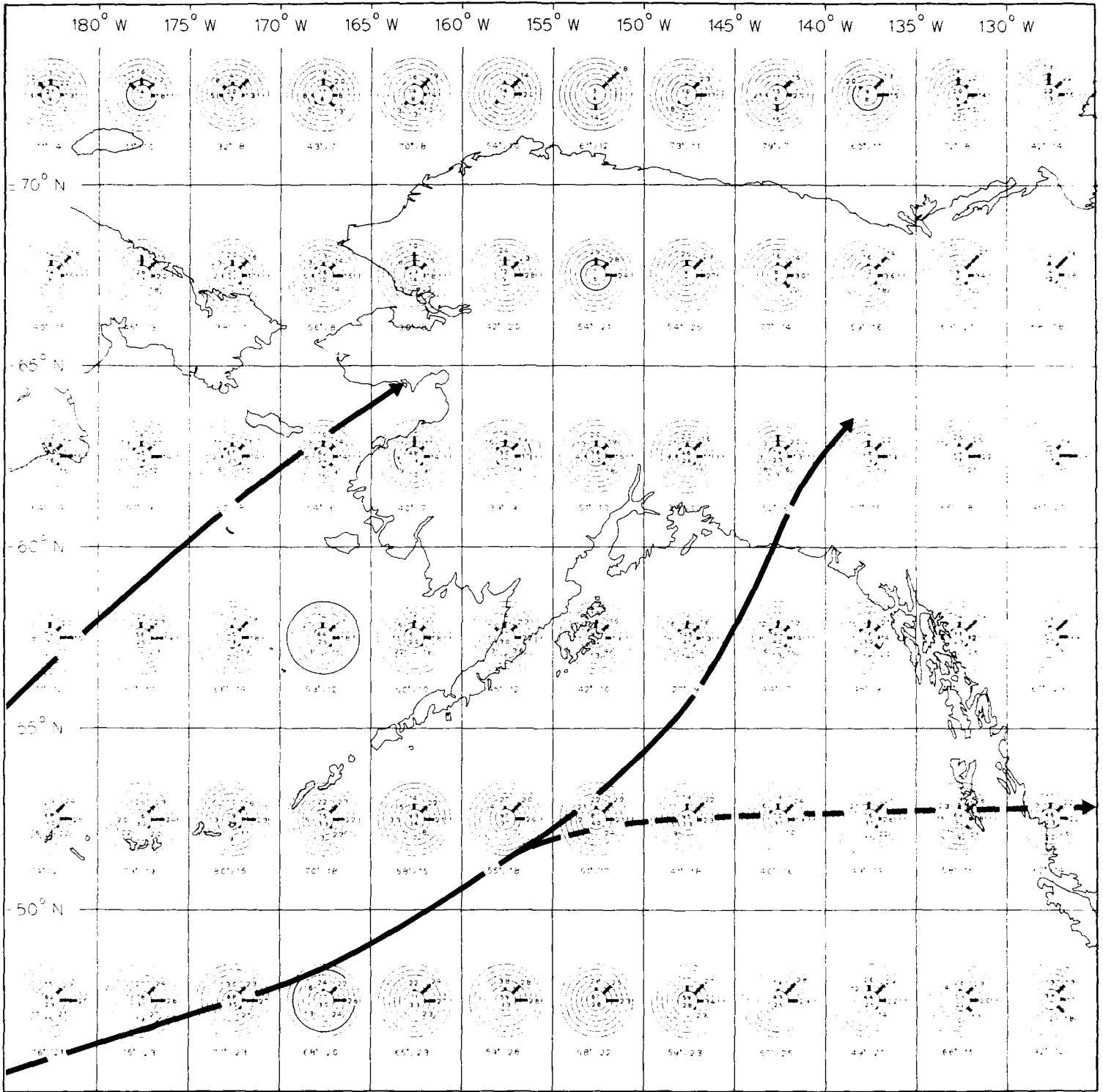
August

11-488



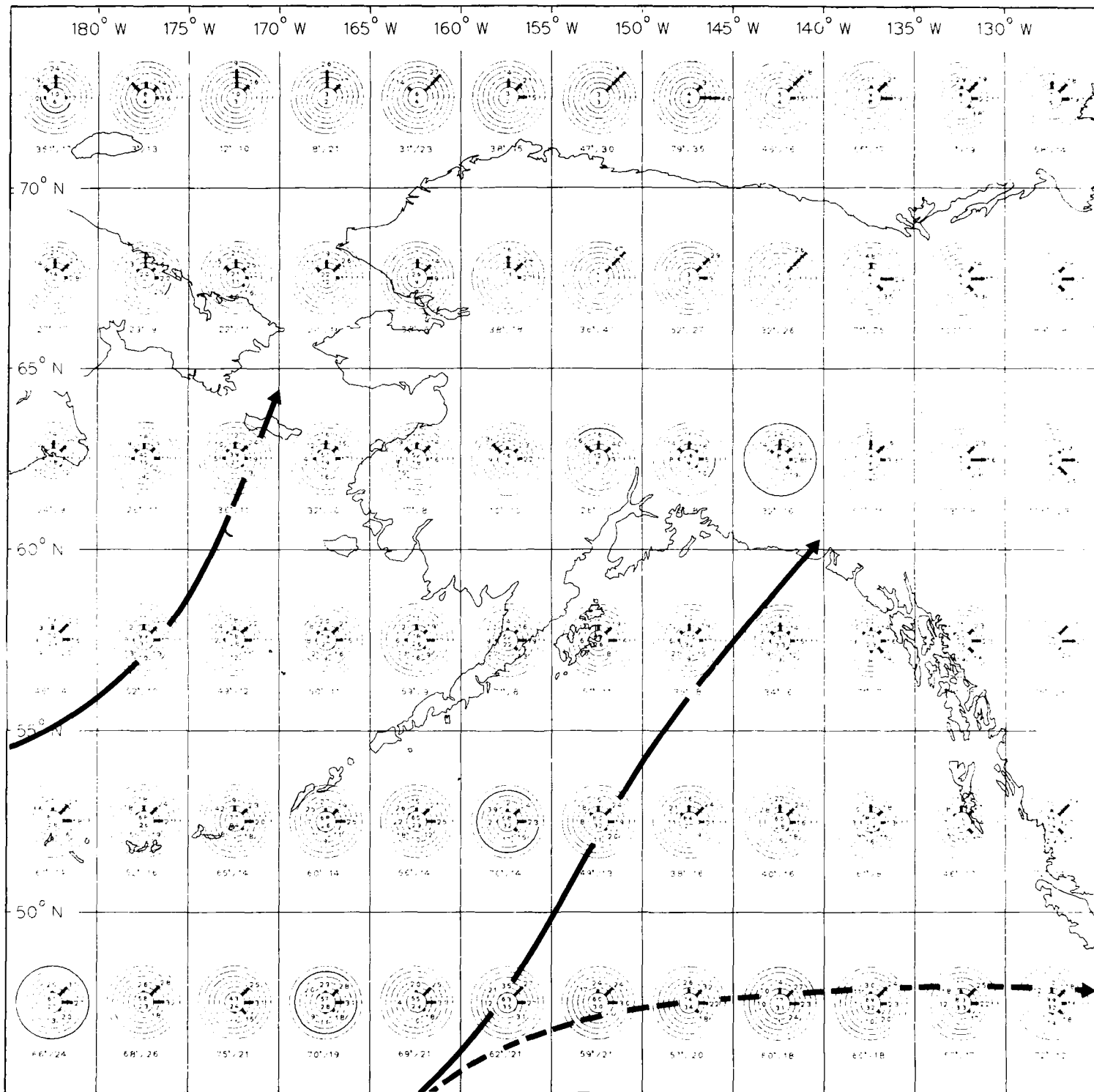
September

22 Low pressure center movement



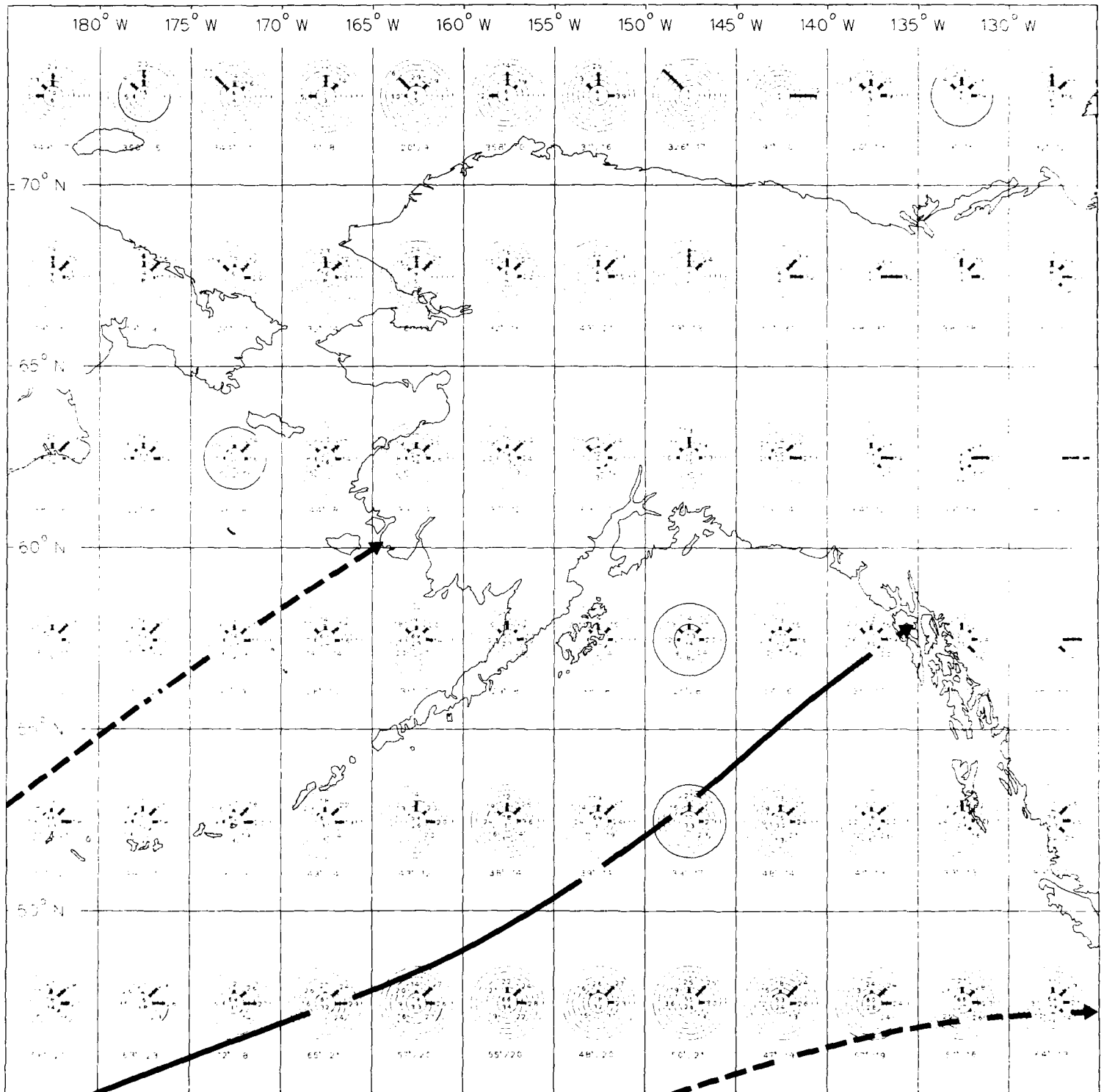
22 Low pressure center movement

October



November

22 Low pressure center movement



22 Low pressure center movement

December



# Set 23. Persistence of wind speed and wave height, seasonal

## WIND SPEED DURATIONS - SEASONAL

	SEQUENCE NUMBER												LATITUDE AND LONGITUDE			
	1	2	3	4	5	6	7	8	9	10	11	12	24-1	4	8	8
W ≥ 64	2	1	1													4332
I ≥ 48	24	10	4	1									(36-1)	40	66	4332
N ≥ 41	59	31	16	7	4	1	3						48-3	121	247	4332
D ≥ 34	85	52	50	22	22	9	3	2	4				90-1	252	701	4336
S ≥ 28	68	57	57	34	27	19	12	13	6	9	4	6	144-1	322	1353	4362
PE ≥ 22	79	63	33	35	30	21	26	15	4	15	10	8	252-1	382	2176	4408
E ≥ 17	55	50	27	30	23	24	11	12	14	9	18	11	288-1	355	2884	4432
D ≥ 11	30	17	18	21	21	12	11	8	2	6	5	5	558-1	260	3747	4674
K ≥ 7	6	6	4	6	8	9	5	3	4	4	1	2	804-1	152	4079	4753
N ≥ 4	4	1	3	1	5	3	1	1	1	1	1	1	SEA-1	(75)	(4483)	(5174)

6 Events with wind speeds ≥ 7 kn. persisted 12 hours; 85 events persisted ≥ 96 hours.

The longest event with wind speeds ≥ 4 kn. persisted for 3 months or more and it occurred 1 time.

The longest event with wind speeds ≥ 48 kn. persisted 36 hours and it occurred 1 time.

75 Events had wind speeds ≥ 4 kn. which comprised a total of 4,483 hindcasts.

5,269 Hindcasts were examined, and 5,174 had wind speeds ≥ 4 kn.

## WAVE HEIGHT DURATIONS - SEASONAL

	SEQUENCE NUMBER												LATITUDE AND LONGITUDE			
	1	2	3	4	5	6	7	8	9	10	11	12	24-1	4	8	8
W ≥ 64																4331
I ≥ 48																4331
N ≥ 34	7	6	9	1	1								(30-1)	24	55	4331
E ≥ 28	11	13	12	10	6	5	2	1	2				54-2	62	213	4331
D ≥ 20	14	15	9	13	15	20	13	5	6	4	6	7	114-1	134	804	4336
I ≥ 16	21	11	14	10	17	13	13	19	12	3	10	9	312-1	179	1397	4339
G ≥ 12	18	9	19	11	9	13	8	12	10	8	7	9	396-1	198	2275	4367
T ≥ 9	19	9	5	9	10	6	13	6	10	9	4	3	426-1	180	2989	4423
I ≥ 6	6	6	8	4	3	6	3	3	2	2	7	3	1140-1	122	3506	4515
I ≥ 3	3	1	1	1									SEA-1	(28)	(3828)	(5137)

8 Events with wave heights ≥ 6 ft. (1.8m) persisted 12 hours; 65 events persisted ≥ 96 hours.

The longest event with wave heights ≥ 3 ft. (0.9m) persisted 3 months or more and it occurred 1 time.

The longest event with wave heights ≥ 34 ft. (10.4m) persisted for 30 hours and it occurred 1 time.

28 Events had wave heights ≥ 3 ft. (0.9m) which comprised a total of 3,828 hindcasts.

5,196 Hindcasts were examined, and 5,137 had wave heights ≥ 3 ft. (0.9m).

Durations for a particular season extend from the time the event begins (or the first day of the season if already in progress), and terminate when the event ends. Events become undefined if missing data is encountered. Durations lasting a season or more are categorized together. Durations may persist into the next season.

### ABBREVIATIONS

MAX: Maximum duration or interval, followed by the number of occurrences.

TE or TI: Total number of events or intervals

T: Total number of hindcasts included in TE or TI.

T\*: Total number of hindcasts that met the stated criteria.

TH: Total number of hindcasts examined.

## WIND SPEED INTERVALS - SEASONAL

	SEQUENCE NUMBER												LATITUDE AND LONGITUDE			
	1	2	3	4	5	6	7	8	9	10	11	12	24-1	4	8	8
W ≥ 64	1	1	3	3									9	SEA-7	11	2761
I ≥ 48	1	1	3	3									33	SEA-6	44	4810
N ≥ 41	7	5	3	8	3	4	3	2	6	2	4	5	5	2	61	SEA-1
D ≥ 34	31	26	18	26	11	12	10	10	9	7	7	6	3	8	6	966-1
S ≥ 28	50	34	34	33	17	16	15	15	11	8	11	7	10	6	4	654-1
PE ≥ 22	87	59	52	37	19	21	10	9	20	11	10	8	7	3	4	348-1
E ≥ 17	106	63	48	30	23	20	13	12	10	9	2	3				216-1
D ≥ 11	103	60	35	29	9	6	2	2	2	2	1	1				132-1
K ≥ 7	90	31	10	5	5	2	2	1	1							72-1
N ≥ 4	52	12	2	2	1											30-1

There were 63 12-hour intervals between events of wind speeds ≥ 17 kn.; 11 intervals persisted 96 hours or more.

The longest interval between events of wind speeds ≥ 7 kn. was 72 hours and it occurred 1 time.

The longest interval between events of wind speeds ≥ 64 kn. was 3 months or more and it occurred 7 times.

There were 69 intervals between events of wind speeds ≥ 4 kn. which comprised a total of 95 hindcasts.

4,332 Hindcasts were examined, and 95 had wind speeds < 4 kn.

## WAVE HEIGHT INTERVALS - SEASONAL

	SEQUENCE NUMBER												LATITUDE AND LONGITUDE			
	1	2	3	4	5	6	7	8	9	10	11	12	24-1	4	8	8
W ≥ 64													8	SEA-8	9	2948
I ≥ 48													11	SEA-8	14	3796
N ≥ 34	1	2	2	1									40	SEA-5	47	4394
E ≥ 28	5	3	3	2	5	1	3	4	2	3	1	1	57	SEA-1	93	4121
D ≥ 20	14	16	8	15	9	6	3	7	2	2	7	4	4	1	77	582-1
I ≥ 16	25	21	16	14	11	8	15	7	10	7	8	8	3	5	8	498-1
G ≥ 12	26	24	33	20	12	16	7	11	11	4	5	8	3	3	22	414-1
T ≥ 9	35	29	14	10	9	12	11	8	2	4	3	4	1	2		270-1
I ≥ 6	24	23	10	9	11	3	2	2	2	5	2					144-1
I ≥ 3	6	2	2	2	1											36-1

There were 25 12-hour intervals between events of wave heights ≥ 9 ft. (2.7m); 11 intervals persisted 96 hours or more.

The longest interval between events of wave heights ≥ 6 ft. (1.8m) was 144 hours and it occurred 1 time.

The longest interval between events of wave heights ≥ 64 ft. (19.5m) was 3 months or more and it occurred 8 times.

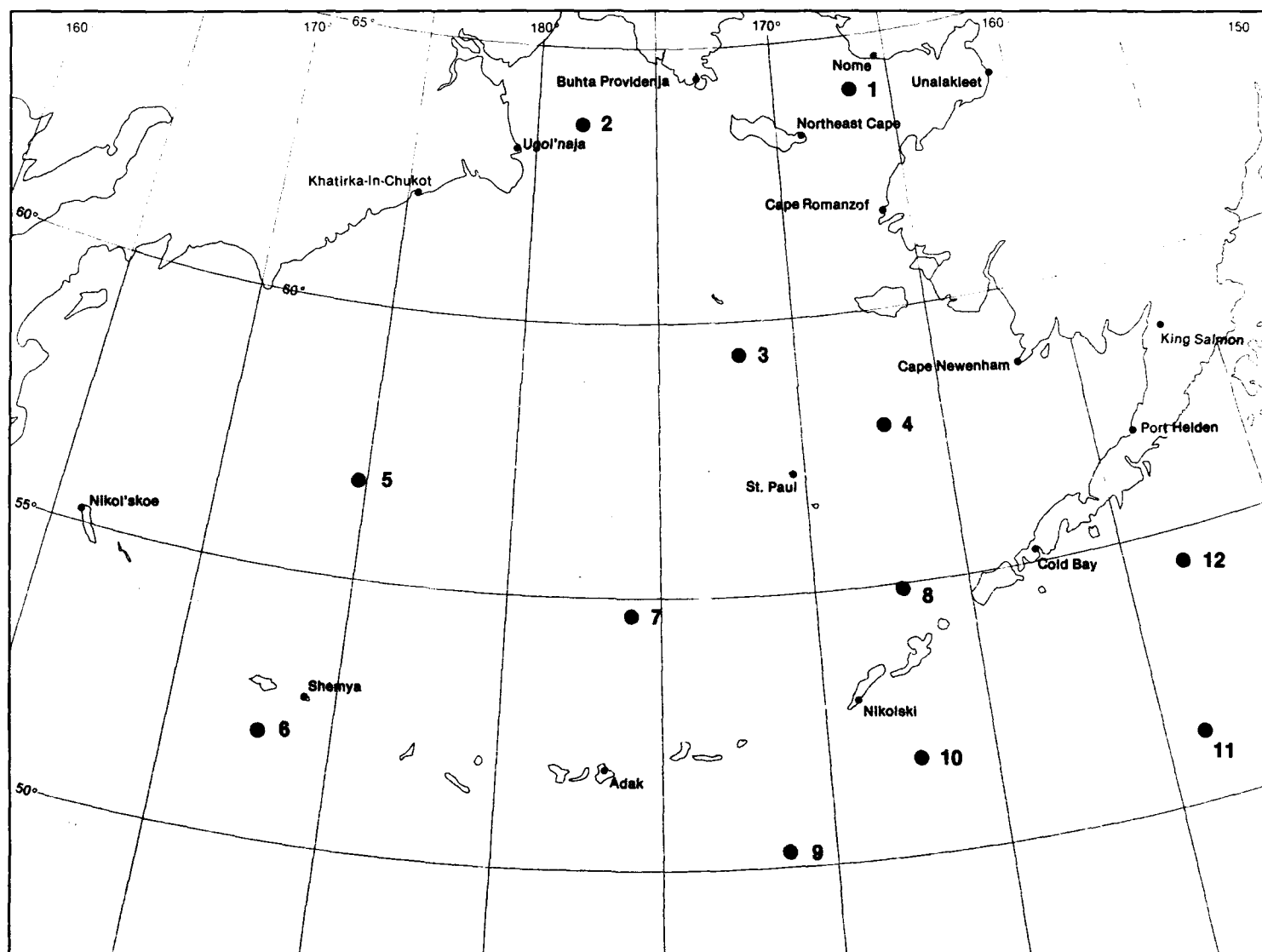
There were 15 intervals between events of wave heights ≥ 3 ft. (0.9m) which comprised a total of 40 hindcasts.

4,333 Hindcasts were examined, and 40 had wave heights < 3 ft. (0.9m).

Intervals for a particular season extend from the time the event ends (or the first day of the season if the event is not in progress), and terminate when the event begins. Intervals become undefined if missing data is encountered. Intervals lasting a season or more are categorized together. Intervals may persist into the next season.

feet	0	3	6	9	12	16	20	28	34	48	64
meters	0.0	0.9	1.8	2.7	3.7	4.6	6.1	8.5	10.4	14.6	19.5

The SEA code in the MAX column of the tables refers to season, i.e., the longest event or interval persisted for three months or more. Since the extreme wave statistics are based on the assumption of winds blowing over open water without fetch restrictions, the wave height extremes are likely to be unrealistically high during the winter season for those few grid points located within an area having a probability of ice restricting the development of waves. Refer to the ice statistics in sets 17-19. Refer to the introductory text in Section II for additional information on persistence of wind and waves.



23 Legend

Legend 23

		64.1N 166.7W															
W	N	1															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
48	48	5	3	3	1												
41	41	19	9	10	7	2	2										
34	34	32	10	13	14	13	7	12	5	2	2						
28	28	44	18	27	19	16	15	7	8	12	4	2	1	2	4		
22	22	33	28	23	21	15	13	12	21	10	10	4	7	2	5	3	1
17	17	29	15	10	18	18	15	13	10	8	11	11	13	7	5	2	5
11	11	17	16	13	12	7	10	7	4	7	5	6	5	3	4	4	7
4	4	7	5	1	6	4	9	1	3	6	2	7	3	4	2	1	70
		15	4	3	3		1	1	3	2	1		2	1	1	1	1
		HOURS DURATION OF EVENTS															
		59.4N 172.0W															
		1															
48	48	11	5	3	4												
41	41	16	11	17	9	4	3	2									
34	34	37	25	13	17	9	15	3	3	4	7						
28	28	31	37	29	9	18	15	13	8	7	3	7	6	5			
22	22	33	31	29	25	21	17	16	12	16	6	10	7	3	7	2	24
17	17	34	26	22	23	26	23	10	12	14	9	9	4	5	6	9	41
11	11	22	2	10	14	8	12	9	13	15	9	8	5	4	3	9	71
4	4	11	6	6	5	1	8	7	12	7	5	3	3	3	2	79	954
		3	2	1	2	1	5	1	3	4	3	3	1	6	2	1	134
		HOURS DURATION OF EVENTS															
		56.8N 174.8E															
		1															
48	48	22	12	12	7	5	4										
41	41	21	25	5	22	11	6	5	3	2	1	3					
34	34	46	23	18	19	4	10	14	6		4	2	4	1			
28	28	43	30	24	16	10	20	15	13	11	7	5	6	1	5	2	21
22	22	33	27	26	17	22	15	13	12	11	5	7	3	3	6	3	48
17	17	32	5	29	4	17	18	9	8	13	6	6	6	1	7	6	63
11	11	15	5	4	8	11	5	14	1	5	4	8	3	5	8	1	58
4	4	5	8	16	7	3	6	2	7	8	4	2	1	1	10	3	74
		3	3	2	3	3	1	2	5	1	1	1	2	1	6	1	136
		HOURS DURATION OF EVENTS															
		54.7N 175.9W															
		1															
48	48	24	9	11	4	3											
41	41	39	30	19	7	5	4	1									
34	34	43	41	23	14	14	7	7	5	2	3	1	1	2	2		
28	28	45	45	44	26	16	16	8	16	5	7	3	2	2	3	7	180
22	22	52	45	46	31	29	4	23	11	10	6	6	12	8	3	20	204
17	17	57	33	33	34	25	22	15	22	13	11	4	10	4	7	3	46
11	11	29	21	16	21	17	14	11	12	10	9	7	7	8	5	6	75
4	4	8	6	10	10	7	6	11	6	2	6	3	3	5	1	88	636
		7	1	1	3	3	3	1	2	1	3	2	2	2	64	1128	93
		HOURS DURATION OF EVENTS															
		50.3N 171.3W															
		1															
48	48	11	11	3	2	1											
41	41	29	9	10	2	6	2	2									
34	34	52	41	15	7	6	7	5	2		1	1	2	1			
28	28	72	56	39	35	14	12	6	11	3	3	4	2	1	3	138	1
22	22	70	72	36	29	17	19	19	10	5	6	8	3	3	13	210	1
17	17	64	46	36	42	33	29	23	17	20	14	8	10	5	4	7	27
11	11	38	25	15	25	18	19	12	17	13	18	13	9	11	3	7	71
4	4	16	9	5	5	14	7	5	7	4	6	4	10	5	1	92	624
		7	1	2	1	1	4	2	2	1	4	3	4	64	1452	96	4009
		HOURS DURATION OF EVENTS															
		51.3N 158.8W															
		1															
48	48	8	3	6	3	2	1	1									
41	41	37	22	15	9	7	2	2									
34	34	65	45	34	20	12	10	5	3	2	1	1	1				
28	28	75	45	37	30	22	17	16	14	6	5	1	4	2	3	2	4
22	22	64	55	39	36	20	22	8	28	13	14	7	2	5	6	1	22
17	17	59	47	37	31	28	20	19	11	12	14	11	8	11	11	4	41
11	11	32	20	35	20	22	12	12	4	11	9	12	8	10	5	82	492
4	4	10	8	10	11	7	10	7	4	6	10	5	4	8	2	3	86
		4	2	4	1	2	2	1	1	3	1	1	2	2	3	67	1416
		HOURS DURATION OF EVENTS															

		63.6N 178.1W															
W	N	2															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
48	48	16	14	5	7	2	3	1									
41	41	20	20	17	11	3	9	8	5	4	2						
34	34	27	27	16	17	15	12	8	2	12	4	2	8	6	3	6	156
28	28	35	22	20	25	18	13	8	6	2	9	7	7	4	4	3	27
22	22	35	24	19	17	17	16	12	17	9	8	5	2	7	6	5	39
17	17	16	7	19	12	16	8	12	11	13	10	10	3	2	6	8	54
11	11	11	15	9	8	4	6	6	7	8	7	7	1	3	2	69	858
4	4	12	3	6	3		3	4	5	2	5	5	4	6	2	1	68
		4	3	1	2												
		HOURS DURATION OF EVENTS															
		58.0N 167.0W															
		1															
48	48	9	7	2	5												
41	41	23	15	8	10	2	4										
34	34	40	39	22	13	19	8	2	1	2	1	2					
28	28	60	37	26	27	22	17	13	8	6	4	4	2	3	2	2	2
22	22	43	46	38	30	19	21	16	14	15	11	7	4	4	6	16	204
17	17	49	32	39	28	18	20	21	12	8	9	15	7	7	4	6	43
11	11	17	20	16	14	13	16	15	15	9	14	10	7	5	8	3	71

		1																64.1N 166.7W					
W	264																	9	SEA-8	9	3080	4525	4527
	248																	15	SEA-7	19	3504	5057	5082
D	241	2	1	1	2	1	2	1	3	2	1	2	2	1			33	SEA-6	54	4793	6167	6286	
	234	8	6	7	2	3	5	4	4	2	1	3	4	1	2		64	SEA-4	116	4934	5433	5902	
P	228	25	6	10	7	5	7	9	11	12	12	5	9	3	5	6	66	780-1	198	3492	3608	4662	
	222	23	18	22	20	15	15	21	13	7	8	8	7	7	5	7	43	420-1	239	2428	2497	4391	
E	217	37	27	30	26	20	15	8	7	11	10	7	5	5	4	25	240-1	237	1633	1661	4367		
	211	36	36	39	15	13	15	8	5	2	4	3	2	2	2	5	114-1	189	819	830	4345		
K	207	47	28	20	10	9	4	3	4	1	1	1	1	1			78-1	128	358	361	4333		
	204	43	16	7	5	1	1	2	1								78-1	76	199	152	4333		
		6	2	18	24	30	36	42	48	54	60	66	72	78	84	90	96+	MAX	T <sub>1</sub>	T	T <sub>2</sub>	T <sub>M</sub>	
		HOURS INTERVAL BETWEEN EVENTS																					

HOURS INTERVAL BETWEEN EVENTS

		3																59.4N 172.0W					
W	264																	10	SEA-7	10	3134	4672	4677
N	248																	20	SEA-6	30	3891	5666	5727
D	241	3	3	1	2	1	5	1	1	2	3							48	SEA-5	71	5282	5864	6066
S	234	9	3	5	4	2	7	8	3	4	5	9	3	6	3			68	SEA-2	143	4419	4716	5263
P	228	16	13	9	11	14	12	14	17	4	10	9	6	3	3			62	816-1	209	3268	3422	4491
F	222	29	22	26	16	3	20	10	15	12	11	6	4	2	5			46	450-1	260	2453	2513	4370
E	217	44	34	34	34	23	21	15	6	14	5	3	7	2	6			22	420-1	274	1746	1772	4354
D	211	55	45	29	25	21	12	13	5	4	3	2	2	1				126-1	219	821	831	4337	
K	207	68	44	20	10	9	7	2	1	1								60-1	162	375	378	4333	
N	204	61	15	4	4	1	1	1										42-1	86	131	132	4331	
		C	2	16	24	30	36	42	48	54	60	66	72	78	84	90	96	+	MAX	TI	T	T <sub>h</sub>	T <sub>H</sub>
		HOURS INTERVAL BETWEEN EVENTS																					

HOURS INTERVAL BETWEEN EVENTS

		5																56.8N 174.8E							
W	264																	15	SEA-8	17	3570	4978	4994		
N	248	4		2	3	3	2	2	1		1	5			1	46	SEA-4	72		4676		5100	5300		
D	241	15	7		6	3	3	3	4	4	1	5	3	5	4	2	61	SEA-2	126		4207		4463	4942	
S	234	16	12	9	13	9	6	7	5	6	7	8	5	6	4	70	648-1	187		3465		3616	4540		
P	228	27	17	17	18	15	10	8	11	7	7	6	8	10	2	4	60	528-1	227		2764		2894	4415	
F	222	32	29	31	22	13	17	14	16	8	6	7	3	5	3	38	300-2	251		2007		2102	4379		
E	217	43	33	40	23	22	12	15	11	8	6	5	7	3	2	5	15	228-1	250		1414		1438	4347	
D	211	50	46	29	24	18	9	6	4	5	5	1	1	1	1	3	132-1	193		704		724	4342		
K	207	69	26	20	11	6	4	1	1	1	1	1	1	1	1	1	102-1	141		333		335	4333		
N	204	60	16	5	1	1	1										36-1	85		126		126	4333		
		C	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
		HOURS INTERVAL BETWEEN EVENTS																							

HOURS INTERVAL BETWEEN EVENTS

		7																54.7N 175.9W						
W	264																	10	SEA-7	11	3046	4491	4496	
N	248																	37	SEA-5	58	4890	5454	5568	
D	241	1	1	1	2	1	3	3	2	2	1	1	1	2	2			62	SEA-1	120	4388	4633	4953	
S	234	1	1	1	1	1	1	1	1	1	1	1	1	1	1			4	70	864-1	181	3637	3814	4481
P	228	2	4	1	2	2	16	4	17	11	9	7	15	6	6			60	636-1	264	3140	3229	4379	
F	222	5	16	16	29	25	21	9	13	12	13	10	3	5	3			17	390-1	327	2411	2445	4357	
E	217	63	64	54	38	19	16	9	10	11	5	6	2	5	9			14	246-1	338	1682	1709	4348	
D	211	69	43	23	15	13	4	2	4	2	2							72-2	265	786	606	4336		
K	207	65	44	23	2	2	4	2	1	1	1							54-1	174	355	355	4334		
N	204	63	15	5	1	1	1											36-1	87	122	122	4333		
		6	2	18	4	31	16	62	54	60	16	2	78	14	4	66	6	MAX	TI	T	T <sub>6</sub>	TH		
		HOURS: INTERVAL BETWEEN EVENTS																						

HOURS INTERVAL BETWEEN EVENTS

		9																50.3N 171.3W					
W	264																	9	SEA-7	9	3007	4676	4679
N	248																	26	SEA-5	36	4329	5351	5410
D	241	5	3	1	3	2	3	1	2	1	2	1	5	2	1			52	SEA-1	76	4561	4958	5122
S	234	5	1	8	7	7	4	5	6	5	1	4	5	2	3			76	858-1	156	3859	4056	4496
P	228	40	21	15	18	16	11	10	13	7	8	10	4	7	2			78	546-1	267	3425	3567	4487
F	222	59	41	4	20	23	20	13	11	20	15	10	12	13	13			31	354-1	350	2674	2714	4402
E	217	69	63	47	37	28	23	23	17	13	9	12	8	2	1			11	198-1	385	1806	1837	4350
D	211	107	8	38	38	18	8	5	4	3	4	2						120-1	309	849	859	4332	
K	207	164	56	20	4	3	4	1	1	1								54-1	193	348	348	4332	
N	204	61	6	5	1	1												24-1	90	109	109	4332	
		T	2	10	24	36	42	40	24	54	60	66	72	78	84	+986+	MAX	T <sub>1</sub>	T	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	
		HOURS, INTERVAL BETWEEN EVENTS																					

HOURS INTERVAL BETWEEN EVENTS

		11																51.3N 158.8W																																							
W	264																	10	SEA-8	11	3411	4856	4862																																		
	248																	30	SEA-4	37	4069	5411	5486																																		
D	241	7	4	5	2	2	2	3	4	4	1	1	3					60	1350-1	99	4152	4561	4780																																		
	234	28	13	10	10	13	7	6	5	2	3	8	1	2	1			83	690-1	205	3719	3987	4564																																		
S	228	40	29	22	20	21	9	13	9	15	9	6	12	2	7	4	67	438-1	285	3127	3260	4418																																			
	222	59	15	46	39	26	14	11	21	14	12	9	6	7	6	8	30	306-1	343	2366	2441	4408																																			
P	217	90	70	53	28	20	17	20	6	6	5	7	7	5	1			16	198-2	361	1618	1662	4348																																		
	211	167	79	37	23	12	5	5	6	1	3	3	1	2				84-2	293	762	782	4337																																			
F	207	133	16	7	3	5												54-1	182	317	323	4333																																			
	204	69	17	3	1													24-1	90	116	116	4333																																			
		K	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	MAX	T1	T	Ts	TN
		HOURS: INTERVAL BETWEEN EVENTS																																																							

HOURS INTERVAL BETWEEN EVENTS

		2																63.6N 178.1W							
WAVE NUMBER	Z																	11	SEA-8	11	3386	4833	4836		
		5	3	3	2			1	1	1	1	4					33	SEA-8	54	5334	6263	6393			
SPEED	Z	16	2	1	2	3	3	4	5	3	3	1	3	1	1		56	SEA-1	104	4226	4644	5044			
		14	6	17	5	4	8	7	7	9	4	6	4	5	3	4	65	984-1	168	3515	3753	4685			
TEMP	Z	28	32	13	15	10	10	17	7	8	4	7	12	6	6	4	61	708-1	216	2819	2866	4479			
		35	22	19	18	16	25	17	11	5	6	6	6	10	2	6	34	408-1	238	2006	2045	4479			
CORRECTION	Z	17	37	23	24	24	21	10	9	8	6	6	3	4	3	1	21	222-1	203	1309	1344	4357			
		40	37	29	7	8	13	10	6	7	1	1	1	1	1	1	3	210-1	163	639	646	4342			
K M	Z	53	25	12	9	9	4	4	1						3		1	264-1	121	353	354	4333			
		8	11	8	16	3					4	2						54-2	B1	173	174	4333			
		12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 84 88 92 96 100																Miles		T		T <sub>0</sub>		T <sub>10</sub>	
		HOURS INTERVAL BETWEEN EVENTS																							

1															64.1N 166.7W						
W	N																4241				
W	48	1															6-1	1	1	4241	
N	41																	30-1	1	5	4241
D	41																	48-1	11	31	4241
S	34	5	2	1	1													60-1	51	152	4241
P	28	13	15	8	6	3	2		3		1									153	4241
E	22	18	19	18	21	12	6	2	9	2	3	1	3	1				108-1	117	517	4241
D	17	36	15	21	15	21	20	11	8	7	9	4	4	2	3	4	9	162-1	189	114	4241
N	11	23	4	21	2	1	1	1	1	1	1	1	1	1	1	1	1	474-1	229	2241	4243
K	7	27	10	11	16	12	14	9	6	13	4	8	8	8	3	8	66	570-1	223	3056	4267
N	4	22	8	8	8	9	6	2	10	3	5	3	6	4	3	75	882-1	178	3562	3839	4308
		HOURS DURATION OF EVENTS															T <sub>H</sub>				

HOURS DURATION OF EVENTS															59.4N		172.0W					
W	264																4241					
N	248	1	1												24-1	2	7	7	4241			
D	241	5	2	1												30-1	8	16	16	4241		
S	234	15	15	2	3	2	1								42-1	38	80	80	4241			
P	228	25	21	16	10	9	1	3	2	1					54-1	88	252	256	4241			
E	217	29	4	22	26	18	13	8	5	3	3	5	1	1	192-1	148	650	660	4241			
D	211	44	26	20	22	18	21	16	13	12	7	5	6	5	3	6	210-1	224	1220	1257	4241	
N	7	35	13	14	13	5	21	19	13	21	10	11	8	7	9	6	45	306-2	260	2437	2502	4260
N	4	26	11	6	7	5	6	11	9	9	10	11	9	6	76	558-1	217	3338	3478	4283		
N	4	15	6	7	2	3	3	5	2	2	2	5	1	5	5	76	936-1	140	3717	4097	4420	
		C	12	16	24	30	36	42	48	54	60	66	72	78	84	90	96+	MAX	TC	T	Ts	TH
HOURS DURATION OF EVENTS																						

HOURS DURATION OF EVENTS															56.8N		174.8E				
S																					
1 X CONTINUED	IN W	DZ - W																			
HOURS DURATION OF EVENTS															T <sub>H</sub>		T <sub>H</sub>				

HOURS DURATION OF EVENTS															54.7N 175.9W							
W	N	7										12-1	1	2	2	4241						
W	48	5	3	1								18-1	9	14	14	4241						
N	41	16	5	3	5	2						30-2	31	65	65	4241						
D	41	15	20	14	2	6	4					48-1	62	167	167	4241						
S	28	31	34	23	20	4	8	4	4	3		78-1	133	428	429	4241						
P	22	52	48	29	21	15	13	13	7	7	3	1	6	1	2	114-1	221	886	926	4241		
E	17	38	33	35	30	27	23	16	14	12	9	6	6	7	5	2	111	150-1	274	1549	1606	4249
D	11	41	19	24	3	22	18	21	20	14	16	9	9	7	9	7	53	222-1	320	2713	2799	4300
N	7	27	15	4	15	9	12	11	9	8	9	3	8	6	8	67	762-1	240	3468	3610	4321	
N	4	15	3	4	2	3	7	6	7	2	2	4	2	3	2	84	822-1	144	3859	4137	4393	
		HOURS DURATION OF EVENTS										T <sub>H</sub>		T <sub>h</sub>		T <sub>h</sub>						

HOURS DURATION OF EVENTS														50.3N		171.3W					
9																					
W	N															6-1	1	1	1	4241	
48		5	2	2	1	1															
41		16	5	5	2	1	1	1	1												
34		36	22	17	5	4	1	3		2											
28		37	28	19	18	11	7	6	3	3	6	1	1								
22		50	46	28	21	16	16	18	7	8	6	6	1	3	1	2	6	138-1	235		
17		55	47	28	51	16	15	16	15	15	7	6	7	4	4	3	19	252-1	308		
11		34	24	25	18	32	18	8	15	10	21	7	10	9	10	2	52	402-1	295		
7		19	9	14	7	9	14	5	9	9	11	7	3	8	5	84	576-1	222	3565		
4		6	2	4	3	7	1	2	4	4	1	1	2	6	81	918-1	124	3903	4213		
		6 3 18 24 30 36 42 48 54 60 66 72 78 84 90 96+														MAX	TC	T	T <sub>0</sub>	T <sub>H</sub>	
HOURS DURATION OF EVENTS																					

HOURS DURATION OF EVENTS														51.3N		158.8W						
11																						
W	N													36-1	8	17	17	424				
N	48	3	4														424					
	41	19	11	6	2	2								42-1	41	84	84	424				
D	41	39	23	12	11	4	1	3						78-1	86	237	239	424				
	28	50	39	24	20	19	10	5	4	3	1			90-2	178	582	587	424				
S	22	57	42	43	38	22	18	14	7	5	2	3	7	3	6	150-1	266	1230	1244	424		
	17	44	40	34	32	24	26	25	6	10	8	9	7	5	3	29	240-1	307	2045	2090	424	
E	11	25	15	15	18	25	16	16	13	16	11	14	5	6	3	7	64	564-1	269	3119	3264	429
	7	13	10	12	6	6	4	4	8	2	7	5	5	5	4	86	630-1	181	3721	3904	433	
N	4	6	2	2	3	1	5	1	3	3	4	3	2	1	2	69	1350-1	108	3939	4374	452	
	6 2 18 24 30 36 42 48 54 60 66 72 78 84 90 96+ MAX 1C T T* TH																					
HOURS DURATION OF EVENTS																						

													63 6N			178 1W					
													2								
W	N														6-1			1 1 1			
															24-1			2 5 5			
D	S														36-1			17 38 38			
															78-1			31 106 106			
P	E														108-1			79 300 304			
															198-1			136 738 758			
D	N														252-1			173 1256 1309			
															354-1			238 2230 2409			
N	4														402-1			211 306 332			
															846-1			181 348 372			
6 2 16 24 30 36 42 48 54 60 66 72 78													84 90 96			MAY			JUN		
HOURS DURATION OF EVENTS																					
													58 60			167 0W					

		4										58 ON 167 OW												
W	N											4241	T <sub>H</sub>											
W	48	2										6-2	2	2	2	4241								
N	41	8	5	2								18-2	15	24	24	4241								
D	41	22	14	5	3	2	2					36-2	48	99	103	4241								
S	28	28	23	20	14	6	6	1	1	2	1	60-1	162	299	309	4241								
P	28											3	126-1	169	665	4241								
E	27	43	25	27	19	15	16	7	4	4	1													
C	27	44	30	43	26	25	19	10	20	8	4	10	4	2	3	3	7	186-1	258	327	1352	4241		
D	27	26	20	27	24	23	21	16	11	17	11	11	11	11	8	9	43	300-1	293	2594	2676	4249		
N	27	20	10	10	8	7	16	4	5	13	11	5	7	6	6	1	32	354-2	23	3448	3607	4334		
k	7	6	3	2	2	2	2	2	2	4	5	2	5	2	5	2	5	1	79	966-	133	405	4343	4507
4	4	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	T <sub>C</sub>	T	T <sub>H</sub>	T <sub>W</sub>		
		HOURS DURATION OF EVENTS										52 ON 172 9E												

		11																51.3N		158.8W			
W	N																	6	SEA-6	6	220B	4265	4265
																		13	SEA-8	13	3399	4631	4648
±41	4																1	30	SEA-7	42	4084	5217	5301
±34	4	3	7	1	2	3	5	2	2	4		1		4	5	45	SEA-5	88	4794	5543	5782		
±28	17	16	11	14	9	6	6	4	7	6	4	2	5	4	3	65	1806-1	179	4510	4757	5344		
±22	44	32	26	11	12	15	11	9	5	15	8	5	6	6	6	56	1722-1	267	3434	3576	4820		
±17	50	50	30	28	22	22	14	16	15	11	3	1	6	7	2	34	570-1	311	2394	2440	4529		
±11	72	56	44	18	24	9	15	2	7	6	1	3	1	6	2	2	6	138-1	268	1044	1047	4261	
±8	71	34	27	20	5	3		4	2	1							90-1	179	440	441	4249		
±4	70	25	3	2	3												30-3	103	152	153	4241		
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90 96+	MAX	T1	T	Th	TH		
HOURS INTERVAL BETWEEN EVENTS																							

		12														54.4N		158.1W				
W	≥ 64															6	SEA-6	6	2208	4265	4265	
	≥ 48	1														15	SEA-7	16	3453	4794	4817	
N	≥ 34	3	2	1												52	SEA-5	40	3902	5065	5140	
	≥ 24	6	2	3	1	2	2	1	2	3	2	1	2	1	2	2	52	SEA-3	84	4673	5526	5740
S	≥ 28	10	12	9	4	9	3	3	4	3		6	5	4	6	68	1800-1	152	4430	4715	5209	
	≥ 22	21	22	24	15	19	12	6	9	9	11	10	9	3	5	59	864-2	237	3533	3663	4756	
P	≥ 17	46	47	33	26	19	12	13	10	14	10	6	5	4	8	5	39	744-1	297	2702	2741	4583
	≥ 11	77	48	40	28	24	11	14	5	6	6	2	5	3	4	1	9	318-1	283	1235	1262	4284
E	≥ 7	81	38	37	14	12	4	3	1	1	2	1	1	1	2		90-2	200	558	564	4241	
	≥ 4	78	28	11	3	4	1				2						60-2	127	225	230	4241	
		6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96+												MAX	T1	T	Ta	Tb				
		HOURS INTERVAL BETWEEN EVENTS																				

### 23 Persistence of wind speed-interval

## Spring

		2																63.6N		178.1W		
W	64																			4100		
	48																			4100		
D	41	3	1		1												30-1	5	10	10	4100	
	38	2	5	1	1												72-1	10	32	32	4100	
R	24	12	5	7	5	3	1	1									96-1	36	118	23	4100	
	22	17	11	18	6	9	3	16	5	4	1	2					108-2	77	363	392	4123	
V	17	21	33	16	12	12	8	4	7	3	2	9	1	4	5		138-2	149	874	894	4151	
	11	43	33	17	17	17	20	17	4	9	8	11	7	5	3	4	37	324-2	252	2024	2169	4192
K	7	4	17	24	19	14	11	9	8	7	12	3	8	9	4	7	67	522-1	260	2970	3165	4294
	4	29	15	11	13	9	6	10	5	4	6	5	7	2	2	5	79	918-1	208	3550	3836	4396
		6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96+																MAX	TE	T	T <sub>0</sub>	T <sub>H</sub>
HOURS DURATION OF EVENTS																						

4																		58 ON			167.0 W			
W	≥ 64																				4100			
	≥ 48	2	1														12-1	3	4	4	4100			
	≥ 41	1	1														36-1	3	9	9	4100			
	≥ 34	5	9	1		1	3	1									42-1	20	56	56	4101			
S	≥ 28	19	11	19	9	3		2	1	1	1	1					60-1	66	90	90	4102			
	≥ 22	24	16	14	16	13	16	5	3	3	3	1	1	1			1	102-1	117	492	493	4107		
	≥ 17	32	26	19	25	17	14	18	12	10	5	4	4	3	1		8	156-1	198	672	1079	4114		
	≥ 11	39	26	19	23	22	19	17	22	17	6	10	9	10	6	1	41	264-1	287	2321	2372	4157		
E	≥ 7	20	8	9	12	8	9	11	10	11	9	7	8	3	11	5	72	954-1	213	3295	3477	4327		
	≥ 4	20	9	8	5	4	5	4	2	4	4	3	2	5	2	65	1625-1	145	3638	4296	4585			
	8 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96																		MAX		TE		T <sub>h</sub>	
	HOURS DURATION OF EVENTS																							

		HOURS DURATION OF EVENTS																52 ON		172.9 E	
		6																			
W	64																			4100	
	48	1																6-1	1	1	4100
D	41	4	4	1														24-1	9	16	4100
	34	10	4	8	13	2		1										48-1	28	72	4100
Z	28	26	19	12	6	6	4	1	1	2								84-1	78	225	4100
	22	41	20	24	18	13	9	8	5	5	2	3	1	1	1			126-1	152	599	4100
C	17	48	46	34	21	21	20	18	7	14	6	2	4	3	1	3	6	144-1	256	1232	4100
	11	58	36	26	22	13	13	17	16	13	10	8	16	8	4	5	50	222-1	315	2481	4100
K	5	23	5	16	11	10	13	14	11	12	9	8	7	7	8	5	72	582-1	23	3300	4100
	4	12	5	1	3	4	3	3	6	6	4	4	2	1	1	76	996-1	13	3490	4100	
		6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96+																May		°C	
		HOURS DURATION OF EVENTS																			

		B																54 9N		167 2W			
W	264																			4'00			
	248	2	1															12-1	3	4	4	4'00	
N	241	3	2	2															18-2	7	13	3	4'00
	234	13	6	6	1	3												10	2	23	66	4'00	
S	228	25	14	13	4	4	4	1	2	1								60-	68	100	8	4'00	
	222	41	22	25	15	22	9	9	5	2	4	1	1	2	1	1	2	1	60	626	633	4'00	
P	217	49	30	26	30	24	21	12	13	5	13	7	4	3	3	10	21	25	356	3	4'00		
	211	29	16	17	15	23	21	16	18	8	2	8	3	11	13	5	43	414-	266	263	2'16	4'00	
D	208	18	12	9	16	18	14	8	2	9	10	7	9	5	4	14	74	636-1	209	3305	36	4'00	
	204	7	13	6	3	7	7	3	1	1	1	1	3	2	2	77	1746-	1119	1808	4377	46'36		
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	TD	T	T <sub>0</sub>	T <sub>00</sub>	
HOURS DURATION OF EVENTS																							

[illegible]

12																		54.4N		158.1W		
WIND	≥ 64																	4100				
	≥ 48	2		1										18-1	3	5	5	4102				
	≥ 41	7	3	3	1	1								30-1	15	31	31	4102				
	≥ 34	10	5	7	5	2	1	1	1					48-1	32	92	92	4104				
SPEED	≥ 28	29	12	12	6	3	9	1	2		1			60-1	75	215	226	4107				
	≥ 22	35	37	29	15	13	9	5	6	4	1			102-1	164	622	646	4115				
	≥ 17	56	46	35	28	17	14	14	15	15	11	7	4	5	3	2	4	192-1	270	1331	1386	4125
	≥ 11	35	20	25	17	18	16	11	15	11	10	9	7	9	6	7	59	64E-1	275	2736	2862	4227
K	≥ 7	24	10	11	13	10	13	8	4	6	9	4	3	2	5	7	78	79B-1	207	3518	3836	4424
	≥ 4	12		2	5	3	2	5	1	6	5	3	3	1	1		65	115E-1	114	3613	4193	4424
		6	2	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	TE	T	T <sub>h</sub>	T <sub>H</sub>



		1										64.1N 166.7W													
W	N											6	SEA-6	6	2208	4224	4224								
D	Z											6	SEA-6	6	2208	4224	4224								
S	P											7	SEA-5	7	2402	4418	4420								
E	D											9	SEA-2	9	2300	4402	4418								
k	z											17	SEA-1	21	2561	4144	4205								
n	z											3	36	1710-1	60	2940	3966	4182							
												3	55	690-1	135	2904	3432	4129							
												13	35	474-1	236	2215	2292	4104							
												4	10	198-1	248	1208	1216	4103							
												84	1	777	679	674	4101								
												HOURS INTERVAL BETWEEN EVENTS													



11													51.3N			158.8						
W	264	3	1											12-1	4	5	5	4545				
	248	12	6	3	3									30-3	24	48	48	4545				
N	241	38	16	7	3	1	1	1						54-1	77	167	168	4545				
	234	65	48	19	16	13	7	4	1	2	1		1	96-1	177	469	476	4545				
S	228	96	62	34	18	24	12	6	2	1	1	1	2	2	108-2	322	1102	1116	4545			
P	226	67	51	54	50	35	32	23	2	18	14	6	7	7	3	4	11	2102	2156	4603		
E	217	39	57	30	37	29	24	18	21	17	17	10	9	9	7	8	47	282-1	381	2951	3060	4630
F	211	27	23	16	15	18	7	4	6	15	5	12	6	4	6	6	86	564-1	266	3757	4002	4680
	207	13	5	10	6	7	8	4	4	2	4	5	5	8	85	828-1	168	3874	4434	4738	4774	
	204	4	1	2	3	6	3	3	2		2	1	2	2	1	51	1218-1	82	3348	4674	4774	
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96+	MAX	TE	T <sub>0</sub>	T <sub>1</sub>	T <sub>2</sub>
HOURS DURATION OF EVENTS																						

[illegible]

### 23 Persistence of wind speed-duration

		HOURS INTERVAL BETWEEN EVENTS																					
		12																54.4N 158.11					
WIND	≥ 64																7	SEA-5	7	2546	5272	5275	
	≥ 48																23	SEA-1	26	2980	5121	5176	
	≥ 41	5	3	2	1	3	1	1									1	57	SEA-1	8	3617	4714	4882
	≥ 34	13	6	5	12	10	8	3	9	10	2	5	3	5	5		7	68	564-1	171	3619	4257	4734
	≥ 28	34	27	16	22	24	17	16	6	15	7	6	11	5	5		4	77	480-1	289	3332	3676	4704
SPEED	≥ 22	69	57	46	46	29	24	19	11	12	14	7	7	3	9		6	36	240-1	395	2505	2654	4567
	≥ 17	84	86	66	36	29	27	16	12	12	5	4	7	3	2		3	11	156-1	403	1727	1768	4555
	≥ 11	129	74	45	20	14	9	9	5	1							1	102-1	309	765	773	4545	
	≥ 7	119	35	20	12	5	1										1	84-1	194	348	749	4545	
	≥ 4	75	15	5	1													24-1	96	124	124	4545	
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96+	MAX	T1	T2	T4	TH	

## Fe

		64.3N 166.7W									
		1	2	3	4	5	6	7	8	9	10
W	64	2	1-2	2	4	4	17219				
N	48	10 5 4	1-1	20	37	37	17219				
D	41	38 23 21 10 9	2-5	101	237	239	17219				
S	28	70 33 35 31 60 8 2 2	5-1	241	882	899	17219				
P	28	102 68 59 51 104 36 14 9 7	8-1	450	2161	2204	17219				
E	22	105 92 76 77 163 76 28 13 34 1	13-1	665	4228	4407	17219				
D	17	12 68 66 70 101 2257 28 56 11	16-1	815	6783	7125	17219				
N	11	10 76 62 64 84 2486 47 104 31 4 1	38-1	880	10492	11238	17219				
K	7	8 35 36 38 42 103 75 50 116 57 10 3	77-1	747	12560	14182	17219				
P	4	62 30 24 28 61 59 43 38 105 62 18 11	122-1	542	13117	15797	17219				

DAYS DURATION OF EVENTS

		59.4N 172.0W									
		1	2	3	4	5	6	7	8	9	10
W	64	1 3	1-3	4	7	7	17217				
N	48	18 12 11 5	3-1	47	107	111	17217				
D	41	39 34 29 17 18	5-1	138	383	389	17217				
S	28	101 75 44 33 63 16 1	8-1	334	1092	1103	17217				
P	28	116 96 87 58 144 39 8 6 6	9-1	560	2430	2461	17217				
E	22	132 90 90 89 226 94 33 15 20 2	10-2	791	4680	4754	17217				
D	17	161 97 88 87 268 336 30 47 8	18-1	982	7170	7465	17217				
N	11	94 68 62 62 220 73 99 66 92 33 2	23-1	971	11062	11856	17217				
K	7	71 34 29 24 11 16 76 61 135 70 10 2	42-1	747	13380	14750	17217				
P	4	40 12 17 7 37 37 33 20 98 72 23 14	66-1	411	13427	16280	17217				

DAYS DURATION OF EVENTS

		56.8N 174.8E									
		1	2	3	4	5	6	7	8	9	10
W	64	4 2	1-2	12	20	20	17219				
N	48	46 26 20 11 12 3	3-1	118	303	308	17219				
D	41	67 54 36 32 40 8 1 2	4-2	240	778	791	17219				
S	28	108 11 62 48 102 19 9 5	8-2	424	1709	1739	17219				
P	28	132 93 80 74 175 47 18 7 16	9-1	642	3208	3268	17219				
E	22	133 76 98 75 220 97 31 30 34 2	13-1	833	5539	5672	17219				
D	17	156 93 99 73 278 475 9 40 60 6	20-1	1021	8162	8419	17219				
N	11	16 3 6 4 32 14 48 9 76 12 37 5	24-1	992	11938	12488	17219				
K	7	64 36 26 30 97 104 69 56 146 71 14 1	44-1	714	13487	15039	17219				
P	4	45 5 20 11 37 32 25 22 87 80 27 14	84-1	398	13866	16402	17219				

DAYS DURATION OF EVENTS

		54.7N 175.9W									
		1	2	3	4	5	6	7	8	9	10
W	64	5 3	1-1	9	14	14	17219				
N	48	40 31 18 8 4	2-1	121	231	23	17219				
D	41	146 44 23 28	4-2	263	651	654	17219				
S	28	124 23 16 46 18 2 5 2 1	6-1	502	1549	1567	17219				
P	28	165 11 12 92 148 48 1 6 4	8-1	778	3020	3072	17219				
E	22	167 94 44 25 11 104 0 16 16	9-1	1085	5434	5568	17219				
D	17	225 108 38 250 935 386 33 45 2	12-1	1257	8145	8433	17219				
N	11	133 19 80 94 277 81 106 8 105 15	20-1	1153	12049	12680	17219				
K	7	64 39 36 33 136 89 73 160 15 70 12 3	39-1	772	13936	15170	17219				
P	4	37 12 7 10 4 1 36 30 25 93 76 23 18	80-1	409	13825	16477	17219				

DAYS DURATION OF EVENTS

		50.3N 171.3W									
		1	2	3	4	5	6	7	8	9	10
W	64	4	1-1	4	4	4	17218				
N	48	38 20 11 5 3	2-2	77	148	154	17218				
D	41	47 54 24 11 23 1	3-1	210	475	485	17218				
S	28	168 5 74 40 59 11 1 1	5-1	477	1291	1319	17218				
P	28	211 141 129 116 642 7 3 3	6-1	806	2888	2932	17218				
E	22	204 11 148 00 86 108 35 16 13 1	12-1	1122	5527	5651	17218				
D	17	205 37 37 50 87 8 64 37 46 6	15-1	1323	8531	8820	17218				
N	11	141 10 12 8 123 183 00 72 126 34 1	21-1	1129	12389	13013	17218				
K	7	54 36 35 35 169 2 69 68 15 275 1 1 2	35-1	750	14107	15365	17218				
P	4	45 1 10 7 31 29 31 20 92 88 22 12 2	70-1	378	13586	16532	17218				

DAYS DURATION OF EVENTS

		51.3N 158.8W									
		1	2	3	4	5	6	7	8	9	10
W	64	4 2	1-1	7	11	11	17219				
N	48	26 2 9 3 8	2-1	67	142	142	17219				
D	41	99 52 31 19 19 1	2-1	221	489	491	17219				
S	28	174 23 67 51 67 10 3	4-1	498	1364	1380	17219				
P	28	255 70 24 90 188 32 13 3 2	7-1	877	3106	3151	17219				
E	22	235 166 63 35 300 11 46 18 13	9-1	1188	5967	6119	17219				
D	17	173 98 31 230 9 64 99 36 63 2	12-1	1293	9046	9353	17219				
N	11	475 82 72 208 15 190 58 15 145 4	26-1	1050	12846	13491	17219				
K	7	50 34 38 26 97 75 72 46 156 79 13 4	40-2	590	14337	15607	17219				
P	4	21 7 8 10 29 25 27 18 69 61 33 24	59-1	392	13866	16677	17219				

DAYS DURATION OF EVENTS

		63.6N 178.1W									
		1	2	3	4	5	6	7	8	9	10
W	64	5 3	1-3	8	11	11	17219				
N	48	41 21 11 18 12 2	3-1	105	284	290	17219				
D	41	60 37 37 24 51 9 3 2	6-1	223	846	879	17219				
S	28	80 55 53 35 71 45 20 4 4	7-1	367	1823	1942	17219				
P	28	104 66 56 60 121 54 31 15 22 1	15-1	530	3292	3505	17219				
E	22	111 64 70 60 18 184 46 16 42 9	18-1	681	5395	5796	17219				
D	17	104 69 71 55 172 156 5 30 56 24 2	27-1	163	7532	813	17219				
N	11	104 85 49 56 164 25 60 54 92 79 9 3	41-1	840	12720	13914	17219				
K	7	87 40 50 37 97 82 64 43 129 58 10 4	53-1	701	12302	14424	17219				
P	4	57 41 20 21 67 51 30 31 108 65 17 11 1	72-1	520	12962	1518	17219				

DAYS DURATION OF EVENTS

		58.0N 167.0W									
		1	2	3	4	5	6	7	8	9	10
W	64	1 2	1-2	3	5	5	17219				
N	48	21 13 4 6	1-1	44	83	84	17219				
D	41	60 39 16 16 11	2-2	142	316	318	17219				
S	28	107 95 56 35 60 7 1	3-1	361	1028	1035	17219				
P	28	158 31 102 71 134 30 11 3 1	8-1	641	2340	2362	17219				
E	22	168 31 133 00 240 85 34 17 7	9-1	914	4516	4608	17219				
D	17	175 20 43 180 114 362 35 38 1	16-1	1136	7364	7514	17219				
N	11	106 82 83 71 269 67 05 70 114 26 2	22-1	1095	11604	12113	17219				
K	7	63 31 28 32 120 126 9 62 154 70 9 5	43-1	756	13974	14595	17219				
P	4	38 13 13 10 46 40 27 30 82 76 31 14 3	75-1	423	14377	16357	17219				

DAYS DURATION OF EVENTS

		52.0N 172.9E									
		1	2	3	4	5	6	7	8	9	10
W	64	13 4 1 1	1-1	9	14	14	17219				
N	48	43 24 25 8 6	2-2	106	236	236	17219				
D	41	95 65 40 21 27 3	3-1	251	671	674	17219				
S	28	142 19 66 56 84 11 4	4-1	502	1535	1551	17219				
P	28	190 5 120 01 116 146 13 6 3	6-1	787	3037	3076	17219				
E	22	204 32 48 2 274 108 37 9 19	10-1	1062	5565	5711	17219				
D	17	171 14 13 2 0 32 25 285 37 48 6	12-1	1197	8257	8532	17219				
N	11	150 87 80 75 269 146 08 68 34 30	19-1	1147	12161	12566	17219				
K	7	60 28 42 30 11 90 75 58 15 73 5 3	45-1	752	13885	15024	17219				
P	4	31 13 5 11 41 29 27 25 100 70 24 16 2	65-1	394	13930	16468	17219				

DAYS DURATION OF EVENTS

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		64.1N 166.7W									
		1									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	6	1	5	1	7	4	1	5	11	19
N	41	19	10	9	3	26	12	18	21	44	37
D	28	54	20	19	13	58	61	47	36	62	46
S	22	70	41	42	39	48	91	69	25	79	26
P	17	10	81	75	66	186	184	33	73	21	10
E	11	168	29	1788	189	66	62	21	39	11	
D	7	225	55	1370	1304	20	21	6	9		
N	4	250	35	74	39	58	11	2	1		
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		59.4N 172.0W									
		3									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	3									
N	41	3	4	1	1	7	11	8	6	19	30
D	28	19	9	13	12	38	33	35	20	67	41
S	22	43	30	17	24	124	71	45	31	91	42
P	17	91	62	54	55	18	92	62	39	90	32
E	11	134	04	17	04	27	01	49	36	75	24
D	7	206	96	26	98	186	77	38	20	28	5
N	4	289	7	20	62	87	37	13	4	4	
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		56.8N 174.8E									
		5									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	7	3								
N	41	23	0	2	5	16	20	16	10	49	41
D	28	33	21	14	17	54	53	33	31	65	53
S	22	64	35	36	39	148	11	52	39	96	39
P	17	92	70	8	13	91	11	59	36	76	32
E	11	167	23	12	94	22	186	23	74	18	2
D	7	247	90	45	99	193	7	30	12	22	
N	4	283	78	04	58	87	22	4	5	3	
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		54.7N 175.9W									
		7									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	9	3	3	1	2	5	10	2	17	18
N	41	15	14	12	3	20	24	18	3	46	39
D	28	46	30	19	23	65	54	46	35	81	51
S	22	79	54	49	42	155	89	62	45	95	48
P	17	150	12	30	9	27	12	67	55	83	37
E	11	238	84	77	19	38	14	67	37	65	11
D	7	315	26	7	2	28	67	20	15	13	
N	4	736	4	77	0	59	71	23	7	1	
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		50.3N 171.3W									
		9									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	6	3								
N	41	5	8								
D	28	47	16	23	23	54	54	36	28	85	54
S	22	10	56	43	51	14	70	58	47	94	56
P	17	16	3	29	13	72	22	31	97	50	87
E	11	26	1	98	8	126	27	25	62	38	48
D	7	317	35	50	10	7	16	23	12	7	
N	4	737	76	97	43	69	14	4	1		
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		51.3N 158.8W									
		11									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	1									
N	41	15	3	4	5	13	15	12	6	33	47
D	28	52	21	21	17	82	44	34	29	88	59
S	22	17	4	7	16	2	02	55	42	109	48
P	17	20	1	2	3	10	36	28	73	43	79
E	11	289	22	76	11	126	14	51	29	46	10
D	7	358	22	150	93	165	48	17	5	8	
N	4	705	44	85	53	47	12	2	2		
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		63.6N 178.1W									
		2									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	8	3	7	3	4	5	3	5	13	13
N	41	25	8	4	19	14	13	14	35	27	21
D	28	34	15	21	9	48	45	32	27	65	33
S	22	67	26	25	24	88	68	48	26	93	35
P	17	87	44	56	44	166	71	62	28	73	28
E	11	114	83	73	70	161	77	46	42	62	23
D	7	188	31	1265	196	64	39	21	34	6	
N	4	216	50	91	71	4330	16	5	5	1	
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

		58.0N 167.0W									
		4									
W	N										
		1	2	3	4	5	6	7	8	9	10
W	48	1									
N	41	2	2	1	4	7	14	8	2	22	34
D	28	27	12	7	12	46	34	24	64	53	16
S	22	68	30	26	29	1185	57	44	88	53	11
P	17	117	65	89	82	811	126	47	84	38	9
E	11	192	40	36	108	26	21	70	40	64	22
D	7	276	35	62	90	197	74	28	21	20	2
N	4	294	202	84	58	110	14	7	4	4	
		25	5	75	1	2	3	4	5	10	20
		30	60	90	180	360	MAX	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>

DAYS INTERVAL BETWEEN EVENTS

DAYS INTERVAL BETWEEN EVENTS												52.0N 172.9E			
6															
W	N														
		1	2	3	4	5	6	7	8	9	10	68-1	8		
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	22	53	04	95	75	26	12	8	1				
N	4	348	16												
W	48	1	1	2	1	3	6	5	2	18	9	14	8	3	1
N	41	13	11	6	5	24	18	21	14	40	48	10	11	2	4
D	28	44	41	25	26	67	55	39	31	72	49	14	6	2	4
S	22	108	60	68	57	139	73	49	44	104	17	7	1	1	
P	17	160	25	08	87	216	136	47	88	29	11	1	1		
E	11	268	93	49	07	234	256	40	59	19					
D	7	372	2												

A E V E N T T E R M I N A T I O N	HOURS DURATION OF EVENTS																MAX	TE	T	T <sub>0</sub>	T <sub>H</sub>
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32					
≥ 48	2	2		1	1												30-1	6	15	15	4333
≥ 38	8	10	5	8	4		1	1						1			78-1	38	123	123	4333
≥ 34	15	10	8	14	11	12	5		3	2	1			1			84-1	82	349	349	4333
≥ 20	25	16	10	17	8	16	9	14	5	2	7	7	6	1	3	11	138-1	157	1035	1043	4341
≥ 16	23	24	16	6	10	10	11	15	9	1	4	6	8	3	3	32	216-1	191	1649	1667	4372
≥ 12	24	25	6	7	18	14	11	4	9	9	6	10	2	3	10	59	468-1	215	2485	2537	4382
≥ 9	21	10	13	13	9	6	7	5	3	5	2	3	4	3	6	80	456-1	190	3269	3364	4456
≥ 6	12	6	2	3	4	7	4	3	3	4	2	2	3		1	61	1592-1	117	3907	4157	4626
≥ 3				3						1	1					25	SEA-3	31	4036	5094	5145

		12												54.4N		158.1W						
WAVE	≥ 64													8	SEA-8	8	2944	4389	4389			
	≥ 48					1								12	SEA-7	13	3610	5171	5186			
E34	≥ 34					1		1	1	1				36	SEA-4	44	4893	5904	6027			
	≥ 28	3	2	5	4	1	1	3	1	1	2	4	1	2	55	1512-1	88	4066	4725	5074		
HEIGHT	≥ 20	12	14	7	7	8	8	4	7	7	3	1	3	3	71	738-1	161	3322	3475	4510		
	≥ 16	25	16	11	8	12	10	8	6	7	6	9	5	4	4	60	450-1	195	2742	2801	4429	
L1G	≥ 12	29	22	31	16	15	9	11	9	10	10	5	4	6	1	4	30	396-1	212	1828	1865	4353
	≥ 9	38	30	25	15	12	13	14	4	4	6	3	1	4	2	1	12	276-1	184	1068	1093	4334
H2T	≥ 6	23	24	15	13	8	7	5	3	3	2	2	3	1	1	180-1	109	456	470	4334		
	≥ 3	11	7	2		1	2									42-2	23	50	51	4333		
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96+	MAX	T1	T	Tn	TH
HOURS INTERVAL BETWEEN EVENTS																						

### 23 Persistence of wave height-interval



		I																64-1N		166-7W			
WAVE	≥ 48																						4241
	≥ 34																						4241
E	≥ 34																						4241
	≥ 28																						4241
T	≥ 20																						4241
	≥ 16																						4241
H	≥ 12																						4241
	≥ 8																						4241
C	≥ 4																						4241
	≥ 0																						4241
I	≥ 3																						4241
	≥ 0																						4241
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	+	MAX	TE	T	Ta	TH

		HOURS DURATION OF EVENTS																59.4N		172.0W			
		3																					
W	248																			4241			
	248																			4241			
E	34	2	1														18-1	3	7	7	4241		
	28	2	2	1		2											30-2	7	19	19	4241		
W	16	8	1	6	5	3	3	3	1	2							54-2	32	128	130	4241		
	12	3	9	10	10	5	4	7	3	5	3	1	1				72-1	61	311	316	4241		
E	12	6	7	8	7	12	9	4	10	9	5	2	8	3			3	174-1	103	659	670	4241	
	6	16	8	8	12	16	6	8	8	9	8	11	3	3	4	4	13	336-1	137	1150	1187	4241	
W	6	20	9	7	9	6	8	5	11	6	8	9	5	8	7	7	43	360-1	168	1925	1998	4241	
	3	12	6	3	4	7	3	4	5	2	4	3	2	5	5	9	63	1056-1	137	3091	3338	4334	
		6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96- MAX																YE		Y		TH	
		HOURS DURATION OF EVENTS																56.8N		174.4W			

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HOURS DURATION OF EVENTS																			54.7N	175.9E
W	64																		4241	
A	48																		4241	
V	34	1	1	3															4241	
E	28	3	4	2		3	1		1										4241	
H	20	8	11	8	11	7	3	3	4	2	1								4241	
E	16	15	12	9	11	7	7	9	6	3	4	6	1						4241	
G	12	18	10	18	19	8	7	6	6	13	7	2	9	6	1	2	6	180-1	4241	
T	9	27	14	7	7	14	19	9	6	7	4	7	9	3	9	3	25	282-1	4241	
E	6	33	6	13	6	11	9	9	6	8	5	4	8	4	7	2	55	444-1	4241	
T	3	10	4	4	1	3	1	5	3	2	4	3	6	1	1	4	59	1614-1	4241	
		6	2	16	24	30	36	42	48	54	60	66	72	78	84	90	96+	MAX		
		HOURS DURATION OF EVENTS																	50.3N	171.1E

		HOURS DURATION OF EVENTS																50.3N		171.3	
		9																			
WAVE	64																				
	48																	6-1		1 1	
E	34																	42-2		6 22 23	
	28																	60-1		26 73 75	
HEIGHT	20																	78-1		76 350 36	
	16																			673 695	
T	12																	174-1		111 673 695	
	8																	23 246-2		148 1281 1315	
T	4																	396-1		180 1882 2025	
	0																	63 990-1		149 2691 2954	
T	3																	1476-1		83 3065 3915	
	0																				
		6 -2 10 20 30 36 42 48 54 60 66 72 78 84 90 96+																MAX		TE T T <sub>0</sub> T <sub>N</sub>	

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		2																63.6N		178 W			
WAVE	≥ 64																			4241			
	≥ 48																			4241			
	≥ 34			1	1											30-1	2	9	9	4241			
	≥ 28															42-1	5	19	19	4241			
	≥ 20	1	1	1	1	1	1	1	1	1						72-1	20	67	67	4241			
	≥ 16	8	4	1	7	2	4	1	3					1		84-1	33	147	147	4241			
	≥ 12	16	6	3	9	5	5	4	2	2	2	1	4		2	138-1	68	355	359	4241			
	≥ 8	22	8	11	7	7	7	8	7	3	6	2	4		3	3	8	186-1	106	708	728	4241	
	≥ 6	31	9	12	9	7	8	7	1	8	10	7	4	10	5	1	24	306-1	153	1370	1431	4244	
	≥ 3	20	16	7	8	5	8	13	9	4	5	7	4	9	7	5	56	672-1	183	2515	2435	4265	
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	TE	T	Ta	Tb	
		HOURS DURATION OF EVENTS																					

[illegible][illegible][illegible][illegible][illegible]

2																	63 6N			178 1W			
W M T E G - T E	264																6	SEA-6	6	2208	4265	4265	
	248																6	SEA-6	6	2208	4265	4265	
	234																7	SEA-6	8	2266	4266	4265	
	218																9	SEA-7	11	2878	4365	4384	
	202																17	SEA-7	23	3555	4870	4937	
	186	1															25	SEA-5	37	3931	4732	4879	
	170	3																					
	154																						
	138	4	1	4	3	3	1	1	1	4	1	1	1	2			1	43	SEA-3	71	4119	4736	5095
	122	9	13	2	6	7	2	2	7	3	6	1	4	2	3		4	47	SEA-1	109	3589	4020	4748
106	6	16	12	5	5	11	5	8	3	1	3	7	8	3		1	55	906-1	155	2832	2980	4408	
90	3	31	22	16	15	14	16	7	7	8	4	2	5	2	5	1	29	288-1	184	1544	1580	4291	
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	T <sub>1</sub>	T	T <sub>2</sub>	T <sub>3</sub>	
HOURS INTERVAL BETWEEN EVENTS																							

		4																		58. ON		167.0 W		
W	264																	6	SEA-6	6	2208	4265	4265	
E	248																	6	SFA-6	6	2208	4265	4265	
N	238																	8	SEA-6	8	2582	4427	4430	
E	24	1																13	SEA-5	16	2769	4514	4545	
N	220		1		3		3	1										1	30	SEA-3	50	3774	5065	5246
E	216		4	5	2	1	2	5	3	1	2	1	3	3	1	1	1	43	SEA-3	85	4492	5045	5482	
N	12	7	6	9	9	4	4	4	7	2	3	5	3	4	1	1	2	54	1950-1	122	3860	4118	496	
E	9	12	8	14	16	6	4	8	10	5	4	6	2	3	2	1	54	1716-1	155	3136	3363	48	3	
N	6	30	20	20	15	7	10	6	4	10	4	4	2	3			2	42	810-1	179	2026	2155	4480	
E	3	40	17	12	13	10	6	4	4	4	6	1	2			1	2	1	204-1	133	728	745	4292	
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	+	Max	T1	T2	T3	T4	

		HOURS INTERVAL BETWEEN EVENTS																52 ON			172 9 E					
		6																								
WAVE HEIGHT	≥ 64																6	SEA-6	6	2208	4265	4265				
	≥ 48																6	SEA-6	6	2208	4265	4265				
	≥ 34			2					1								13	SEA-5	16	2539	4412	4431				
	≥ 28	1	1	1				1		1	1	1					1	20	SEA-6	28	3313	5018	5085			
	≥ 20	5	2		3	1	4			1		3	1	1			2	47	SEA-4	70	4264	4956	5254			
	≥ 16	9	2	7	10	4	3	1	4	2	5		2	2	3		2	50	SEA-3	106	4141	4601	5160			
	≥ 12	16	13	13	4	4	2	12	2	5	5	4	3	7	4		2	50	1398-1	146	3283	3558	4620			
	≥ 10	20	20	14	13	11	10	4	4	5	3	3	3	2	3		5	51	744-1	171	2719	2809	4116			
	≥ 6	25	25	11	13	9	10	5	5	7	3	2	6	4	2		3	42	306-1	172	678	1714	4255			
	≥ 3	31	16	14	11	7	4	5	6	4	3	3	2	2	2		4	282-1	113	573	584	4248				
		6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96																MAX			T <sub>1</sub>			T <sub>2</sub>		

		HOURS INTERVAL BETWEEN EVENTS																54.9N		167.2W			
		8																					
WAVE EFFECT	HOURS INTERVAL																						
		≥ 64																6	SEA-6	6	2208	4265	4265
≥ 48																		6	SEA-6	6	2208	4265	4265
≥ 32	1																	8	SEA-6	9	2371	4426	4432
≥ 24																		13	SEA-4	16	2463	4586	4627
≥ 20	3	2	1			1		2	1	1	2	3				1	1	35	SEA-2	54	3488	5064	529
≥ 16	9	4	3	1	2	7	4		4	3	5	5	4			1	1	46	SEA-1	101	4232	4948	5427
≥ 12	15	10	10	5	8	8	5	8	3	1	2	4		1	4	2	59	1666-1	145	3848	4129	52	
≥ 9	22	17	15	13	9	4	5	5	8	5	6	4	4	4	4	4	62	68C-1	177	3002	3205	484	
≥ 6	26	23	15	14	15	11	7	8	6	3	4	4	4	1	2	34	450-1	177	1613	1740	4347		
≥ 3	24	24	13	9	12	8	3	4	1	4	4	2	2	1		7	162-1	118	606	615	4282		
		6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96+ MAX T <sub>1</sub> T <sub>2</sub> T <sub>3</sub>																					
		HOURS INTERVAL BETWEEN EVENTS																					

		10										51.8N		167.3W								
WAVE EAS	T											6	SEA-6	6	2208	4265	4265					
T	T											1	9	SEA-6	11	2421	4417	4431				
T	T											18	SEA-5	25	3174	4995	5062					
T	T											1	39	SEA-2	66	3951	5162	5463				
T	T											50	SEA-1	121	4283	4918	5556					
T	T											59	1686-1	145	3489	3739	5007					
T	T											2	6	51	810-1	177	2405	2609	4554			
T	T											4	27	468-1	160	1403	1436	4326				
T	T											4	2	4	144-1	85	479	479	4281			
		8	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	T1	T	T2	T3
		HOURS INTERVAL BETWEEN EVENTS																				
		12																				
																				54.4N 158.1W		

[illegible]

### 23 Persistence of wave height-interval



HOURS DURATION OF EVENTS																	54.4 N		158.1 W			
		12																				
W	≥ 64																		4100			
A	V																		4100			
E	≥ 48																		4100			
	≥ 34			1															4100			
	≥ 28	2	2	1	1														4100			
H	E	5	6	3	4	2	4	3		1									4107			
	≥ 20	12	7	6	5	3	5	6	3	3	4								4111			
J	≥ 16	10	5	9	13	7	6	5	6	3	3	9	2	3	1	1	8		4125			
G	≥ 12	22	16	10	14	11	7	10	8	5	2	5	6	6	4	4	23		4216			
T	≥ 9	23	14	9	3	7	10	10	8	5	6	4	3	6	4	4	59		4469			
	≥ 6	15	8	2	2	3	2	3	3	4	3	2	1	1	1	1	60		4873			
	≥ 3																					
		6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	MAX	TE	T	To	TH
HOURS DURATION OF EVENTS																						



		1																64.1N	166.7W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		3																59.4N	172.0W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		5																56.8N	174.8E
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		7																54.7N	175.9W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		9																50.3N	171.3W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		11																51.3N	158.8W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		2																63.6N	178.1W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		4																58.0N	167.0W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		6																52.0N	172.9E
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		8																54.9N	167.2W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

		10																51.8N	167.3W
W	≥64																		4545
A	≥48																		4545
E	≥34																		4545
H	≥28																		4545
I	≥20																		4545
G	≥16																		4545
T	≥9																		4545
≥6																			4545
≥3																			4545

HOURS DURATION OF EVENTS

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										64.1N 166.7W			
W	264									5 SEA-5	5	1840	4566
A	248									5 SEA-5	5	1840	4566
E	234									8 SEA-5	8	2406	4937
H	228									13 SEA-4	13	2668	4901
G	220	10	5	3	3	1				41 SEA-1	65	3042	4811
F	216	11	2	4	1	1	2	1		3	46 SEA-1	78	3099
E	212	13	11	11	5	3	4	5	3	4	8	64	648-1
D	208	45	17	14	10	15	12	6	11	6	11	10	6
C	204	47	22	20	16	23	13	16	10	15	5	6	6
B	200	32	16	18	18	11	5	4	6	1	2	1	1
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										59.4N 172.0W			
W	264									5 SEA-5	5	1840	4566
A	248									7 SEA-5	7	2532	5062
E	234									15 SEA-2	19	2143	4645
H	228	3		1	1					39	1386-1	50	3066
G	220	8	3	4	4	3	4	4	5	3	2	5	4
F	216	13	9	9	8	5	13	4	6	11	5	5	4
E	212	18	11	21	19	16	8	8	10	2	13	7	5
D	208	25	20	23	9	21	11	13	13	10	9	4	4
C	204	33	28	20	26	23	7	3	8	4	2	6	4
B	200	22	16	9	6	13	2	3	1				
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										56.8N 174.8E			
W	264									5 SEA-5	5	1840	4566
A	248									6 SEA-5	7	2089	4811
E	234									21 SEA-2	23	2467	4936
H	228	3	2	1	2					1	45	1914-1	64
G	220	6	8	7	8	9	10	3	6	7	8	3	6
F	216	15	7	15	10	14	6	10	10	8	11	11	9
E	212	16	20	21	17	16	15	19	9	6	12	8	7
D	208	25	24	19	16	12	16	6	4	6	6	7	3
C	204	26	22	17	12	14	6	7	7	3	5	1	2
B	200	17	5	7	2								
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										54.7N 175.9W			
W	264									5 SEA-5	5	1840	4566
A	248									7 SEA-5	7	2200	4926
E	234									29 SEA-1	41	2863	4635
H	228	7	2	1	1	1	3	2	1	1	4	3	1
G	220	13	15	8	4	9	4	9	8	1	4	3	2
F	216	21	13	15	19	15	10	11	7	11	6	4	7
E	212	31	29	17	23	19	9	10	13	10	6	5	8
D	208	40	32	27	27	15	16	14	10	10	6	1	5
C	204	37	28	20	17	9	5	12	5	1	2	1	1
B	200	3	8	8	2	1							
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										50.3N 171.3W			
W	264									5 SEA-5	5	1840	4566
A	248									5 SEA-5	5	1840	4566
E	234									24 SEA-1	33	2829	4753
H	228	5	5	1	3					1	51	1554-1	73
G	220	20	5	9	9	7	4	12	6	9	10	4	2
F	216	20	24	22	15	14	14	7	10	11	3	11	4
E	212	35	26	20	29	22	12	10	15	3	11	5	8
D	208	40	30	21	21	14	8	3	5	4	7	4	2
C	204	35	19	13	9	5	4	6	5	2	1	1	1
B	200	5	4	4	2	1							
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										51.3N 158.8W			
W	264									5 SEA-5	5	1840	4566
A	248									8 SEA-4	8	2009	4735
E	234									19 SEA-1	21	2489	4841
H	228	3	2	1	2					45	1476-1	61	3355
G	220	13	12	8	8	9	10	8	6	6	4	6	3
F	216	24	28	21	18	16	14	10	6	9	5	3	3
E	212	35	38	26	24	21	15	12	8	10	10	5	2
D	208	43	39	27	24	16	12	4	7	3	2	6	7
C	204	35	18	7	10	6	1	3	2	2	2	1	2
B	200	5	2	4	2	2	1						
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										63.6N 178.1W			
W	264									5 SEA-5	5	1840	4566
A	248									7 SEA-5	7	2274	4804
E	234									19 SEA-3	21	2878	5041
H	228	1	1	2	1					32	SEA-1	43	2700
G	220	11	3	2	3	2	3	3	1	2	2	1	1
F	216	17	5	4	5	2	8	3	2	2	6	4	2
E	212	32	11	14	3	8	11	8	4	7	3	6	5
D	208	32	18	25	15	11	10	19	9	7	8	11	3
C	204	36	20	19	21	16	7	8	7	4	5	3	7
B	200	30	20	13	12	10	11	10	3	2	1	2	2
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

										58.0N 167.0W			
W	264									5 SEA-5	5	1840	4566
A	248									7 SEA-5	7	2170	4700
E	234									13 SEA-2	19	2293	4658
H	228	4	3	1	2	1				33	1482-1	49	2845
G	220	11	4	6	4	5	3	8	4	5	1	2	3
F	216	14	9	15	6	10	14	10	5	7	4	6	4
E	212	19	19	15	17	21	15	18	8	10	7	10	6
D	208	32	35	18	21	17	13	15	10	5	6	7	3
C	204	38	31	20	20	5	7	5	10	2	4	4	9
B	200	11	9	4	4	3	1						
A	196	6	12	18	24	30	36	42	48	54	60	66	72
Z	192	3	12	18	24	30	36	42	48	54	60	66	72
HOURS INTERVAL BETWEEN EVENTS										90.96+	MAX	Ti	T

HOURS INTERVAL BETWEEN EVENTS														52.0N 172.9E								
WAVE HEIGHT	264													6 SEA-6	6	2208	4930	4931				
	248														6 SEA-5	6	1964	4566	4565			
	234	2	2												26 SEA-1	33	3152	4882	4992			
	228	5	3	2	2	4	1								52 SEA-1	74	3050	4473	4708			
	220	11	15	1	11	13	10	6	5	9	8	2	7	5	3	5	76	600-1	187	3295	3676	4601
	216	14	24	22	11	7	10	14	11	8	4	4	9	11	6	8	60	558-1	223	2736	3002	4616
	212	42	20	35	26	21	18	10	14	13	10	8	8	6	8	2	31	288-1	262	1938	2031	4566
	208	51	31	28	19	15	10	14	7	9	6	7	3	3	4	4	10	174-1	221	1776	1217	4510
	204	34	26	9	16	7	12	6	7	1	1	4	1			1		84-1	125	477	478	4546
	200	3	12	6	7	1	1											54-1	32	82	82	4545
HOURS INTERVAL BETWEEN EVENTS																						
6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96+ MAX														T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>					

1																	64.1N 166.7W					
W	≥64																	17219				
A	≥48																1	1	1	17219		
E	≥34	1	1	2	1											2-1	6	19	19	17219		
H	≥28	5	2	5	2											2-1	16	45	50	17219		
E	≥20	44	19	12	12	19	4	1								5-1	111	338	348	17219		
I	≥16	44	25	18	16	45	13	3	1							7-1	168	758	772	17219		
G	≥12	180	51	44	23	72	36	10	11						10-1	435	1858	1902	17219			
T	≥9	178	56	66	37	37	86	51	21	25	2		12-1	659	4252	4349	17219					
I	≥6	160	51	48	44	38	88	70	37	64	28	2	36-1	731	7708	8116	17219					
I	≥3	80	42	30	28	95	66	44	33	83	35	16	8	3	1	121-1	564	11449	12834	17219		
		25	5	75	1	2	3	4	5	10	20	30	60	90	160	360	∞	MAX	TE	T	T <sub>h</sub>	TH
DAYS DURATION OF EVENTS																						

DAYS DURATION OF EVENTS																			59.4N		172.0W								
3																													
W	≥64																	1-2	2	4	6	17217							
A	≥48	2																2-1	39	106	115	17217							
E	≥34	11	10	9	5	3	1											5-1	107	387	398	17217							
H	≥28	18	20	23	16	27	2	1											8-1	303	1601	1623	17217						
I	≥20	42	34	42	36	98	35	12	2	2											9-1	433	2939	2982	17217				
E	≥16	48	51	36	43	37	70	23	9	16											18-1	561	4930	5068	17217				
I	≥12	67	34	40	37	16	70	344	29	34	6											26-1	586	7109	7460	17217			
G	≥9	44	25	40	32	136	136	9	74	12	4											42-1	624	9798	10603	17217			
T	≥6	64	30	33	30	18	95	63	42	92	50	3	4											95-1	694	12164	14649	17217	
I	≥3	41	26	21	16	49	30	42	26	67	47	20	13	4	1														
		25	5	75	1	2	3	4	5	10	20	30	60	90	160	360	∞	MAX	TE	T	T*	TH							
DAYS DURATION OF EVENTS																													

DAYS DURATION OF EVENTS													56.8N		174.8E												
5																											
A	≥64														17219												
E	≥48	2	1	2	1							1-1	6	14	14	17219											
E	≥34	17	14	9	15	25	3						5-1	84	335	337	17219										
E	≥28	29	27	26	18	49	14	4	3	3							7-1	173	852	862	17219						
E	≥20	47	32	43	39	128	53	26	5	13							10-1	386	2606	2656	17219						
E	≥16	50	36	40	32	147	80	37	20	35	4							13-2	481	4162	4330	17219					
E	≥12	52	32	37	38	132	85	37	28	62	21	2							23-1	544	5463	6711	17219				
E	≥9	58	29	33	21	108	74	61	39	75	26	12	2							36-1	538	8341	9052	17219			
E	≥6	48	45	26	20	90	51	51	48	69	42	10	7	3							83-1	510	10336	11977	17219		
E	≥3	45	16	15	9	38	131	26	11	58	34	5	11	2	3	1							229-1	305	10286	15295	17219
25 5 75 1 2 3 4 5 10 20 30 60 90 160 360 ∞ MAX													TE		T		T*		TH								
DAYS DURATION OF EVENTS																											

DAYS DURATION OF EVENTS													54.7N	175.9W	
A	≥64														17219
E	≥48	1	1	1											17219
E	≥34	23	18	12	9	13	2								17219
H	≥28	47	33	23	15	51	6	3							17219
E	≥20	76	47	43	54	119	51	18	5	5					17219
I	≥16	73	60	45	43	156	95	32	14	22					17219
G	≥12	73	48	49	45	126	346	1	41	50	8				17219
T	≥9	62	48	38	40	141	104	76	37	88	32	3			17219
I	≥6	71	28	12	25	89	64	58	42	88	49	12	10		17219
I	≥3	23	11	6	5	36	26	18	15	59	34	9	7	1	17219
		25	5	75	1	2	3	4	5	10	20	30	60	180	17219
DAYS DURATION OF EVENTS															

DAYS DURATION OF EVENTS													50.3N		171.3W							
9																						
W	≥64														17218							
A	≥48	2											1-1	4	7	9	17218					
E	≥34	16	11	13	7	19						2-3	66	218	273	17218						
H	≥28	40	38	17	18	37	11	1	2				5-1	164	623	641	17218					
E	≥20	75	53	63	48	126	51	16	5	8			7-2	445	2369	2438	17218					
I	≥16	82	71	39	57	170	95	42	23	22			13-1	603	4315	4444	17218					
G	≥12	71	50	48	39	139	336	51	64	13	1			20-1	674	7062	7409	17218				
T	≥9	63	47	42	33	139	97	44	86	45	9	1			38-1	649	9638	10428	17218			
I	≥6	34	24	14	15	83	47	59	33	88	47	15	12			60-1	472	11427	13628	17218		
I	≥3	19	6	3	17	13	14	12	42	30	11	8	2	4	1			205-1	183	9469	16201	17218
		25	5	75	1	2	3	4	5	10	20	30	40	180	360	∞	MAX	T <sub>E</sub>	T	T <sub>W</sub>	T <sub>H</sub>	
DAYS DURATION OF EVENTS																						

DAYS DURATION OF EVENTS													51.3N		158.8W																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
W-A-A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	MAX	FE	T	Ts	TH																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
A	2	4	1	1	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</

2												63.6N 178.1W												
W	≥64											17219												
A	≥48	2	1	1								1-1	4	B	9	17219								
E	≥34	8	6	6	6	4	1							3-1	31	97	100	17219						
H	≥28	20	13	16	6	16	3	1							4-1	75	256	264	17219					
I	≥20	68	20	21	22	52	27	3	1							5-1	214	915	934	17219				
G	≥16	61	27	38	22	90	41	8	10	6							7-1	303	1766	1800	17219			
T	≥12	123	37	33	26	136	35	21	22	2							11-1	477	3331	3455	17219			
I	≥9	151	51	52	33	227	94	49	27	60	5	1							21-1	630	5340	5652	17219	
I	≥6	108	41	42	27	84	96	77	38	83	28	5	1							31-1	630	8233	8959	17219
I	≥3	60	38	28	25	83	52	50	43	105	40	17	11							52-1	632	11457	13129	17219
		25	5	75	1	2	3	4	5	10	20	30	60	180	360	00	MAX	TE	T	T <sub>0</sub>	T <sub>90</sub>			
DAYS DURATION OF EVENTS																								

DAYS DURATION OF EVENTS													58.0N 167.0W							
4																				
W ≥ 64														17219						
A V ≥ 48	2	1	2											17219						
E ≥ 34	12	7	5	10	7	1						1-2	5	10	11	17219				
I ≥ 28	25	25	26	20	24	3	1					3-1	42	132	35	17219				
H E ≥ 20	55	48	54	33	105	34	8	5	2			3-1	124	419	124	17219				
E ≥ 16	59	55	38	44	159	64	32	15	8	1		6-1	344	1929	1742	17219				
G ≥ 12	61	43	52	43	164	225	28	37	6			13-1	475	315	3163	17219				
T ≥ 9	57	37	38	42	153	108	70	46	76	21	2	1	1	606	537	5508	17219			
I ≥ 6	59	23	30	29	88	90	72	50	103	36	11	7		35-1	651	7817	8160	17219		
I ≥ 3	38	23	14	11	39	36	32	15	69	28	13	13	3	3	1	60-1	598	10861	17219	
	25	5	15		2	3	4	5	10	20	30	60	100	150	200	201-1	338	11679	5303	17219
DAYS DURATION OF EVENTS																				

DAYS DURATION OF EVENTS															52 ON 172 90		
6																	
W ≥ 64	1																
A V ≥ 48	4	2	3														
E ≥ 34	19	29	20	9	24	1											
H ≥ 28	45	32	22	19	61	12	4	2									
F ≥ 20	71	62	66	40	121	53	24	7	8								
≥ 16	67	50	47	65	16	190	37	16	33								
G ≥ 12	75	61	62	46	155	80	37	36	59	12							
T ≥ 9	54	53	27	31	53	30	66	43	79	34	5						
≥ 6	55	25	30	19	67	64	42	33	92	36	16	4	2				
f ≥ 3	36	16	7	8	32	29	27	15	57	41	5	8	2	6			
25 5 15 1 2 3 4 5 10 20 30 60 400 1600 ∞ MAX															%		
DAYS DURATION OF EVENTS																	

		1										64.1N 166.7W	
WAVE HEIGHT	W ≥ 64											17219	17219
	A ≥ 48											17218	17219
	E ≥ 34											51-1	3 526 17200 17219
	E ≥ 28											48-1	7 613 17169 17219
	E ≥ 20											87-1	93 5375 16871 17219
TIDE	T ≥ 16	15	6	4	5	3	5	3	7	10	13	5	11 6
	T ≥ 12	17	7	5	5	9	13	6	7	18	32	9	13 4 2
	T ≥ 9	58	32	31	11	51	38	27	23	73	40	10	5 4 3
	T ≥ 6	38	35	38	24	104	79	47	29	81	45	3	10 3 1
	T ≥ 3	156	59	51	42	148	93	48	22	69	18	10	6
		21	70	68	39	125	66	29	19	36	9		
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

		3										59.4N 172.0W	
WAVE HEIGHT	W ≥ 64											17217	17217
	A ≥ 48											83-1	1 330 17211 17217
	E ≥ 34											109-1	28 2212 17102 17217
	E ≥ 28											63-1	86 4759 16819 17217
	E ≥ 20											168-1	278 9101 15594 17217
TIDE	T ≥ 16	15	12	9	7	43	32	26	18	57	40	9	6 2
	T ≥ 12	32	18	17	20	70	56	36	32	66	41	12	4 3 3
	T ≥ 9	52	32	45	37	106	61	40	37	79	41	7	8 4
	T ≥ 6	49	54	49	29	136	74	51	24	68	25	10	7
	T ≥ 3	69	76	70	56	122	66	40	26	55	23	2	
		91	54	48	41	87	42	23	14	12	2		
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

		5										56.8N 174.8E	
WAVE HEIGHT	W ≥ 64											17219	17219
	A ≥ 48											63-1	3 406 17205 17219
	E ≥ 34											106-1	65 4313 16882 17219
	E ≥ 28											216-1	153 7272 16357 17219
	E ≥ 20											157-1	364 10292 14563 17219
TIDE	T ≥ 16	43	29	31	21	88	65	34	38	75	28	5	6 2 3
	T ≥ 12	41	50	47	30	113	73	56	25	59	27	11	5 3
	T ≥ 9	75	50	33	43	122	67	36	27	41	31	10	4
	T ≥ 6	90	52	60	40	109	49	27	16	44	15	2	
	T ≥ 3	74	41	41	24	80	24	20	10	9			
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

		7										54.7N 175.9W	
WAVE HEIGHT	W ≥ 64											17219	17219
	A ≥ 48											31-1	1 122 17212 17219
	E ≥ 34											98-1	58 3645 16986 17219
	E ≥ 28											207-1	151 6272 16569 17219
	E ≥ 20											169-1	391 10654 14958 17219
TIDE	T ≥ 16	32	6	3	2	12	14	16	7	29	30	12	7 1
	T ≥ 12	33	29	20	10	60	39	37	22	74	48	10	4 3 2
	T ≥ 9	49	32	36	34	98	63	41	38	69	43	7	7 4 1
	T ≥ 6	12	67	36	49	132	72	49	39	63	37	8	4 2
	T ≥ 3	109	78	64	64	142	78	40	25	57	29	2	4
		128	81	66	50	118	63	32	18	34	11	1	
		67	41	32	34	48	31	15	7	6			
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

		9										50.3N 171.3W	
WAVE HEIGHT	W ≥ 64											17218	17218
	A ≥ 48											35-1	1 139 17209 17218
	E ≥ 34											83-1	48 3323 16987 17218
	E ≥ 28											227-1	142 8822 16576 17218
	E ≥ 20											167-1	422 11554 14780 17218
TIDE	T ≥ 16	64	44	47	33	106	78	47	38	73	36	11	8 2 2
	T ≥ 12	89	74	55	54	138	77	45	26	69	31	5	5 1
	T ≥ 9	115	81	54	52	128	76	42	28	57	16	5	1
	T ≥ 6	101	69	49	46	95	49	34	21	20	7		
	T ≥ 3	33	40	29	21	56	16	4	3	3			
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

		11										51.3N 158.8W	
WAVE HEIGHT	W ≥ 64											17218	17219
	A ≥ 48											111-1	5 598 17197 17219
	E ≥ 34											248-1	52 4461 17008 17219
	E ≥ 28											169-1	152 8272 16546 17219
	E ≥ 20											166-1	439 11877 14580 17219
TIDE	T ≥ 16	29	35	23	23	66	51	30	29	83	46	11	4 2 5
	T ≥ 12	59	53	47	42	122	72	47	32	86	41	2	9 4 1
	T ≥ 9	83	89	69	57	145	91	49	29	71	30	4	3 2
	T ≥ 6	157	88	61	44	144	70	40	19	42	23	3	3
	T ≥ 3	106	89	54	41	101	51	18	18	25	6		
		44	27	34	15	32	16	4	1	6			
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

		2										63.6N 178.1W	
WAVE HEIGHT	W ≥ 64											17219	17219
	A ≥ 48											49-1	3 328 17210 17219
	E ≥ 34											69-1	19 1670 17119 17219
	E ≥ 28											63-1	58 3851 16955 17219
	E ≥ 20											157-1	188 8506 16285 17219
TIDE	T ≥ 16	21	10	6	7	21	14	10	8	26	38	13	10 1 3
	T ≥ 12	31	9	14	8	34	22	21	21	45	48	13	6 4 2
	T ≥ 9	65	20	37	11	70	50	43	18	77	44	14	7 1 1
	T ≥ 6	106	40	45	39	105	76	49	23	80	36	12	7 1 1
	T ≥ 3	116	61	53	37	137	50	35	62	29	3	5	
		136	57	44	47	58	23	17	35	4			
		25	5	75	1	2	3	4	5	10	20	30	60 90 180 360
		DAYS INTERVAL BETWEEN EVENTS										∞ MAX	Ti T T <sub>a</sub> T <sub>H</sub>

4													58.0N 167.0W								
WAVE HEIGHT	≥ 64													17219	17219						
	≥ 48													69-1	2	330	17208	17219			
	≥ 34													114-1	29	2638	17084	17219			
	≥ 28	6	3	4	3	6	9	3	1	11	32	8	11	2	3	179-1	102	6863	16795	17219	
	≥ 20	25	9	13	7	43	31	21	24	66	47	15	6	5	3	167-2	315	11672	15477	17219	
TIDE	≥ 16	32	22	23	15	82	45	50	31	74	54	13	4	2	3	142-2	450	11830	14056	17219	
	≥ 12	51	39	40	38	127	81	49	38	68	42	9	6	3		81-1	591	10434	17131	17219	
	≥ 9	74	59	60	56	140	73	47	28	62	31	8	2	1		72-1	641	8241	9059	17219	
	≥ 6	118	78	62	58	111	59	35	22	44	14	1	2			34-1	604	5240	5605	17219	
	≥ 3	97	47	43	30	77	30	19	10	6						10-1	359	1855	916	17219	
		25	5	75	1	2	3	4	5	10	20	30	60	80	360	∞	MAX	T	T	T*	T <sup>H</sup>
DAYS INTERVAL BETWEEN EVENTS																					

# Set 24. Annual maximum wind and wave for selected return periods (Refer to introductory text of Section II for additional information.)

## Annual Maximum Winds for Selected Return Periods

Values of the annual maximum sustained wind speeds for selected return periods are presented in the table below for selected coastal stations. These tabular values may be used to construct a graphical analysis of the data similar to the one in Figure 1. The procedure is as follows:

1. Use Fisher-Tippett, Type 1 extreme value probability paper with a natural logarithmic ordinate scale and a probability scaled abscissa. A linear reduced variate scale is also useful in locating intermediate probabilities.
2. Select and plot the annual maximum wind speeds at their corresponding probability values from Table.
3. Draw a straight line connecting those points. This is the line of best fit from which wind speed estimates for intermediate probabilities can be obtained.
4. A one standard error confidence band may be drawn by computing the upper and lower bound according to Gumbel (1958). The computational procedure is as follows:

- a.  $S9 = \sqrt{1/(P-1) \cdot (1 - \ln(P))}$
- b.  $TP = S9 \cdot A1 / N$ ,  $A1 = 1/\beta$
- c. Upper Bound (P) =  $\text{Exp}(\ln(x|P))) + TP$
- d. Lower Bound (P) =  $\text{Exp}(\ln(x|P))) - TP$

where S9 = a probability term, TP = standard error at probability P, A1 = scale term  $1/\beta \cdot x[P]$  is the wind speed at probability [P] in knots, and [N] = sample size. This will give an envelope of the 68-percent confidence band for the estimates.

Graphs similar to Figure 1 have been drawn for each station's annual and monthly values and are available on microfiche from the National Climatic Data Center, Federal Building, Asheville, NC, 28801. Any questions regarding the application of the extreme value model should be addressed to Larry Nicodemus, telephone number (704) 259-0366.

STATION NAME	RETURN PERIOD (YEARS)						PARAMETERS		N
	2	5	10	25	50	100	MODE	SETP	
NIKOL SKOE, RA	65.4	73.4	80.2	102.0	119.7	134.8	61.4	.1009	26
KHATIRKA-IN-CHUKOT, RA	53.0	61.5	67.9	74.6	84.7	92.4	50.5	.1311	20
UGOL NAIJA, RA	73.8	84.9	93.1	101.8	114.3	124.6	70.6	.1035	26
BUHTA PROVIDENJA, RA	40.9	46.5	50.7	55.1	61.3	66.8	39.0	.1149	26
NORTHEAST CAPE, AK	48.5	56.2	62.0	68.1	76.9	84.2	45.3	.1301	16
NOME, AK	38.8	44.2	48.2	52.4	58.3	63.2	37.4	.1100	41
UNALAKLEET, AK	42.1	47.5	51.4	55.5	61.3	66.1	40.3	.1055	27
CAPE ROMANZOF, AK	52.0	60.4	66.7	73.4	83.7	91.1	49.6	.1300	24
CAPE NEWENHAM, AK	44.1	51.1	56.3	61.7	69.6	76.2	40.3	.1028	24
KING SALMON, AK	40.6	47.2	52.1	57.3	64.8	71.1	38.1	.1310	26
COLD BAY, AK	50.6	56.1	60.1	64.1	69.8	74.4	48.9	.1091	31
NIKOLSKI, AK	46.1	54.0	60.0	66.3	75.6	83.3	43.8	.1396	17
ST. PAUL, AK	49.1	55.6	60.3	65.3	72.3	78.1	47.1	.1098	32
ADAK, AK	49.2	58.0	64.7	71.9	82.4	91.0	46.6	.1454	26

NOTE: SOME OF THE HIGHER RETURN PERIOD VALUES MAY BE UNREALISTIC BECAUSE OF THE SMALL SAMPLE SIZE. THE CONFIDENCE BANDS AT THESE VALUES MAY BE UNUSUALLY WIDE, WHICH INDICATES A HIGH LEVEL OF UNCERTAINTY.

Annual

24 Return period winds and waves

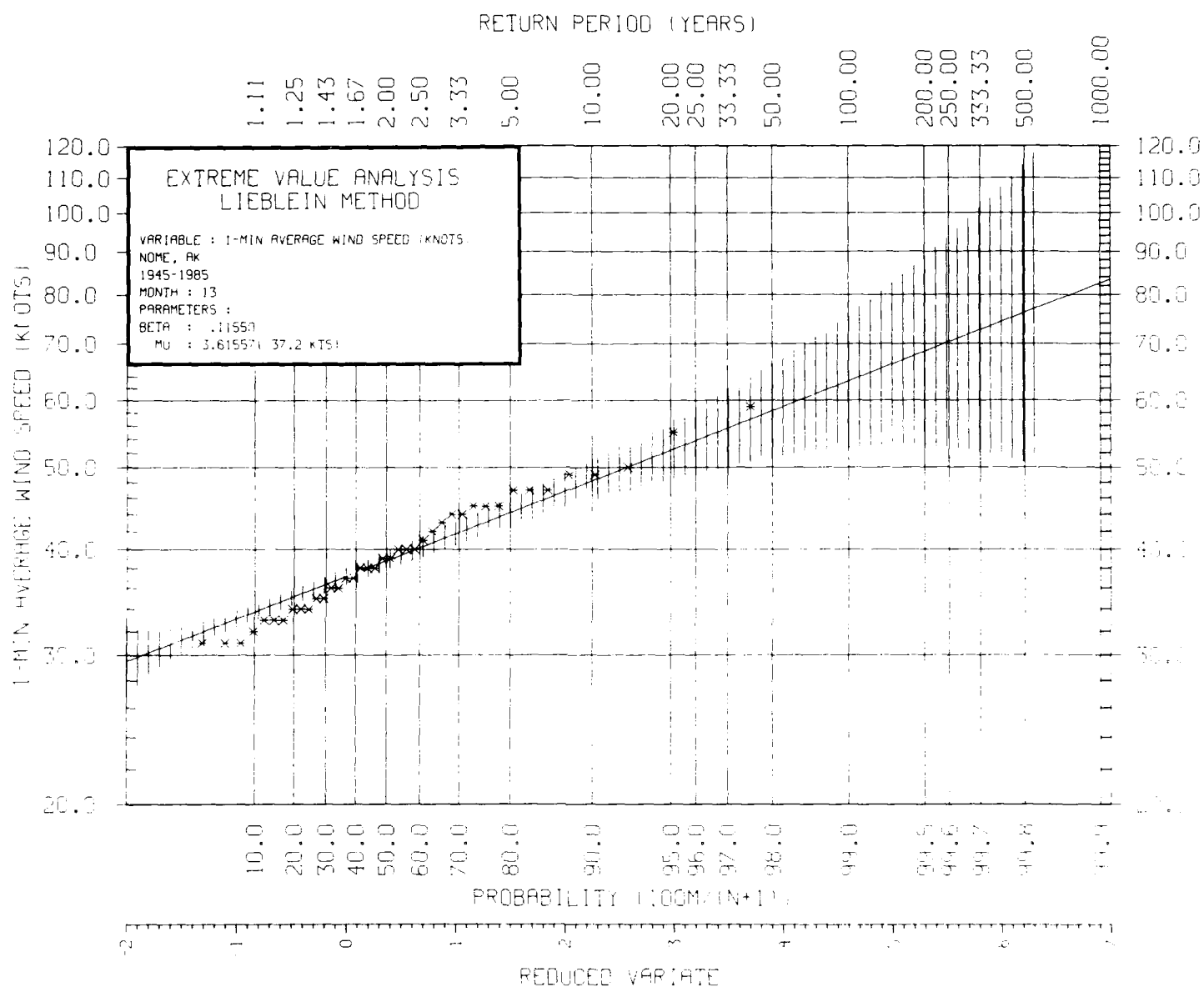


Figure 1. Graphical analysis of annual extreme sustained wind speeds for Nome, AK

24 Return period winds and waves

Annual



## ANNUAL MAXIMUM SUSTAINED WINDS (KNOTS) FOR SELECTED RETURN PERIODS

GRID PT.	LATITUDE	LONGITUDE	RETURN PERIOD (YEARS)						PARAMETERS		
			2	5	10	25	50	100	MODE	BETA	N
01	64.1 N	166.7 W	49.3	56.4	61.7	67.2	75.1	81.6	47.2	.1190	12
02	63.6 N	178.1 W	61.7	68.8	73.9	79.2	86.6	92.6	59.6	.0958	12
03	59.4 N	172.0 W	56.0	61.5	65.4	69.5	75.0	79.5	54.3	.0828	12
04	58.0 N	167.0 W	58.0	64.6	69.4	74.3	81.2	86.7	56.0	.0950	12
05	56.8 N	174.8 E	64.4	72.1	77.6	83.3	91.3	97.7	62.2	.0984	12
06	52.0 N	172.9 E	68.5	77.6	84.2	91.2	101.0	109.1	65.8	.1101	12
07	54.7 N	175.9 W	63.0	67.7	71.0	74.4	78.9	82.5	61.5	.0639	12
08	54.9 N	167.2 W	55.6	58.9	61.2	63.4	66.4	68.8	54.6	.0502	12
09	50.3 N	171.3 W	60.3	69.1	75.6	82.5	92.3	100.4	57.7	.1205	12
10	51.8 N	167.3 W	56.6	61.7	65.3	68.9	74.0	78.0	55.1	.0757	12
11	51.3 N	158.8 W	60.8	70.1	77.1	84.4	95.0	103.8	58.0	.1265	12
12	54.4 N	158.1 W	62.7	72.9	80.6	88.8	100.6	110.5	59.7	.1339	12

## ANNUAL MAXIMUM WAVE HEIGHT (FEET) FOR SELECTED RETURN PERIODS

GRID PT.	LATITUDE	LONGITUDE	RETURN PERIOD (YEARS)						PARAMETERS		
			2	5	10	25	50	100	MODE	BETA	N
01	64.1 N	166.7 W	30.1	36.0	40.9	43.8	48.7	52.4	28.1	5.2793	12
02	63.6 N	178.1 W	40.5	45.9	49.5	52.9	57.4	60.7	38.7	4.7787	12
03	59.4 N	172.0 W	41.0	47.0	51.0	54.9	59.9	63.6	39.5	5.3380	12
04	58.0 N	167.0 W	44.1	53.0	58.9	64.5	71.8	77.3	41.3	7.8307	12
05	56.8 N	174.8 E	45.7	52.2	56.8	61.0	66.8	71.1	43.1	6.5778	12
06	52.0 N	172.9 E	47.2	53.0	57.3	61.1	66.1	69.9	45.2	5.3611	12
07	54.7 N	175.9 W	41.2	48.4	52.6	57.0	62.4	66.5	39.7	5.8353	12
08	54.9 N	167.2 W	41.7	49.2	54.0	58.5	65.1	69.7	39.7	6.6019	12
09	50.3 N	171.3 W	44.0	51.0	55.7	60.1	65.4	70.3	41.7	6.2109	12
10	51.8 N	167.3 W	41.0	47.1	51.2	55.1	60.1	63.9	39.5	5.4090	12
11	51.3 N	158.8 W	45.7	53.0	57.9	62.5	68.5	73.0	43.4	6.4503	12
12	54.4 N	158.1 W	47.6	55.9	61.4	66.7	73.6	78.7	44.7	7.3438	12

NOTE: SOME OF THE HIGHER RETURN PERIOD VALUES MAY BE UNREALISTIC BECAUSE OF THE SMALL SAMPLE SIZE. THE CONFIDENCE BANDS AT THESE VALUES MAY BE UNUSUALLY WIDE, WHICH INDICATES A HIGH LEVEL OF UNCERTAINTY.

Graphical analysis of wave data similar to Figure 1 may be done using the same procedures outlined in the first page of this set. However, the y-axis should be linearly scaled instead of the logarithmic scale used for the wind data. Since the extreme wave statistics are based on the assumption of waves blowing over open water without fetch restrictions, the wave height extremes are likely to be unrealistically high during the winter season for those few grid points located within an area having a probability of ice restricting the development of waves. Refer to the ice statistics in Sets 17-19. Refer to the map in Set 23 for the location of the 12 grid points and to the introductory text for additional information on this set.

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## NOTES